

**DISCRIMINATION, PRIVACY PROTOCOLS, AND  
PSYCHOLOGICAL COMPLEXITIES IN SELECT  
NOVELS OF MARIE LU: A DATA FEMINIST  
APPROACH**

Thesis Submitted for the Award of the Degree of  
**DOCTOR OF PHILOSOPHY**

in  
**English**

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**Jan, 2026**

## DECLARATION

I, hereby declare that the presented work in the thesis entitled “Discrimination, Privacy Protocols, and Psychological Complexities in Select Novels of Marie Lu: A Data Feminist Approach” in fulfilment of the degree of **Doctor of Philosophy (Ph. D.)** is the outcome of research work carried out by me under the supervision of Dr Rayees Ahmad Bhat working as Assistant Professor in the School of Social Sciences & Languages at Lovely Professional University, Punjab, India. In keeping with the general practice of reporting scientific observations, due acknowledgments have been made whenever the work described here has been based on the findings of other investigators. This work has not been submitted in part or in full to any other University or any other board of any degree.



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## CERTIFICATE

This is to certify that the work reported in the Ph. D. thesis entitled “Discrimination, Privacy Protocols, and Psychological Complexities in Select Novels of Marie Lu: A Data Feminist Approach” submitted in fulfillment of the requirement for the award of the degree of **Doctor of Philosophy (Ph.D.)** in the School of Social Sciences & Languages is a research work carried out by Tuyba Fatima Bhat, 12106550, is bonafide record of his/her original work carried out under my supervision and that no part of thesis has been submitted for any other degree, diploma or equivalent course.



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## **ACKNOWLEDGEMENTS**

I want to express my heartfelt gratitude to my supervisor, Dr. Rayees Ahmad Bhat, Assistant Professor at Lovely Professional University, whose intellectual guidance, academic clarity, thoughtful critique, and constant encouragement have been invaluable throughout this research journey. His approachable nature and constructive feedback pushed me to think more critically, question more deeply, and write more precisely. I am equally thankful to the Department of English, School of Liberal and Creative Arts, for fostering a stimulating academic environment. His insightful advice, patience, and unwavering belief in my work have been instrumental in shaping this thesis. Furthermore, I would like to acknowledge the Digital Library of Lovely Professional University for providing access to a vast repository of academic resources, journals, and research materials that have been indispensable for my study.

I extend my sincere thanks to the Head of School, Dr P.P. Singh, the Head of the Department, Dr Ajoy Batta, and the Head of the School, Department of Communication, Dr. Balkar Singh, for their encouragement, constant support, constructive feedback, and motivation, which have helped me refine my research approach and broaden my academic perspective. I would also like to extend my sincere thanks to my former supervisor, Dr. Valiur Rahaman, for his valuable assistance in the selection of the research topic, which laid the foundation for this study. I extend my sincere appreciation to the Panel of Recurring ETP, which convened every six months to evaluate my progress. Their critical insights, valuable suggestions, and thought-provoking discussions have significantly contributed to the refinement and rigor of my research.

My heartfelt gratitude goes to my beloved parents, Mr. Abdul Qayoom Bhat and Mrs Kaleem Akhter Bhat, whose unconditional love and patience have been my greatest sources of strength. Their unwavering belief in my abilities, endless prayers, and continuous encouragement have guided me through every challenge of this journey. I would also like to express my deep appreciation to my constant support system, my husband, Dr. Arsalan Ayyub, whose presence has been a blessing throughout this academic pursuit. His patience, motivation, and belief in my dreams became the foundation on which I stood during my most challenging moments. He stood by me through all the thick and thin with kindness, calming my anxieties and celebrating every achievement. Without his love, understanding, and continuous support, this thesis would not have been completed on time.

Last but not least, I would like to extend my heartfelt thanks to my brothers, Muhammad Mubashar Bhat and Muhammad Musharaf Bhat, for their unwavering support, encouragement, and patience throughout this journey. My sincere thanks also go to my friends, Shamyla Khan, Hariz Aftab, Misbah ul Huda, and Shafaq Khan, whose companionship, kindness, word of encouragement, and moments of lightness and laughter provided comfort and motivation throughout this endeavor. This thesis would not have been possible without the collective efforts of all those mentioned above, and I remain sincerely thankful for their contributions.

**Tuyba Fatima Bhat**

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## ABSTRACT

This thesis examines the intersection of feminist literary theory with digital humanities, utilizing the framework of data feminism in the selected speculative fiction of Marie Lu. Showalter's phases of feminist criticism and the model of gynocriticism are employed to analyze Lu's *Warcross* and *Legend* series, contributing to the development of feminist literary evolution. With the application of Catherine D'Ignazio and Lauren Klein's Data Feminism, this thesis evaluates the female biases present in technology and artificial intelligence in the form of algorithmic discrimination, privacy violations, digital policing or surveillance, and data-driven decision-making, which are highlighted in the Lu's *Warcross*, *Wildcard*, *Legend*, *Prodigy*, and *Champion*. By using this dual framework of Showalter's feminist criticism and D'Ignazio and Klein's data feminism, this research examines how Lu challenges the gender biases ingrained in technological infrastructures.

Technology is often perceived as a neutral entity; however, academicians contend that it has male-centric structures that perpetuate biases in collecting data and artificial intelligence that promote gender disparities. Lu's select novels provide a fertile ground for exploring such concerns, which is reflected through the female characters like Emika Chen and June Iparis, who navigate through a world where technological infrastructures shape and control human existence. The skilled hacker and bounty hunter Emika in the *Warcross* is pushed into a society dominated by digital monitoring, algorithmic bias, as well as manipulation in the guise of technology, which shapes the lives as well as social hierarchies. Whereas the *Legend* series reflects technology as a medium to exert control, reflected through the experiences of June Iparis, who struggles to fight against a totalitarian regime. These narratives illustrate the prevalence of data-driven discrimination and misrepresentation in digital environments, where artificial intelligence replicates the patriarchal power structures, frequently excluding women. Given the contemporary relevance, a feminist lens is required with data feminism as a literary tool, which can examine these issues. The female writers and characters provide insights into evaluating this critical concern regarding a gender-neutral technical world that will defy the existing technological order.

The thesis underscores the significance of feminist perspectives in

examining digital infrastructures. It explores how data feminism can be used as a tool for literary analysis that can be utilized by women's scholarship. The narrative provides critical insights into how female characters challenge and resists the domination imposed by the technical regime. By using a qualitative research methodology, textual analysis, thematic interpretation, and close reading of the novels are done to explore how female characters in Lu's novel serve as a resistance to gendered digital oppression. The selected novels articulate the issues of algorithmic bias, scrutiny, and discrimination with an in-depth understanding of how digital technologies affect women lived experiences in both fictional and real-world contexts.

As digital technology rapidly progresses, so do the ethical concerns. The emerging field of *digital ethics* offers significant potential to guide policymakers and regulators through an interdisciplinary approach. Moreover, it appears that some crucial ethical principles are almost completely disregarded in one area while being greatly praised in another. To effectively address the multifaceted issues of digital ethics, a deep, informed engagement of scholars and practitioners is required across scientific and technological fields.

The study traced the historical path of feminism and data feminism, situating the evolution in the larger social, political, and technological contexts. It advances to conceptualize data feminism through the lens of cyber and data violence against women and girls. It sheds light on how discrimination, misrepresentation, privacy protocols and psychological implications influence women both in fictional narratives and real-world scenarios. By illustrating these concerns through the novels of Marie Lu, the study employs data feminism as a theoretical tool to critique gendered technological biases and digital oppression. The thesis enriches the evolving discourse that debates gender, technology, and power, which is based on the intersection of literary analysis and digital humanities that identifies the notion of systemic bias in data-driven systems, calling for reimagining the digital policies to guarantee a more equitable environment.

Marie Lu's novels provide a context to interrogate the implications of digital violence. Lu's characters, such as Emika Chen (*Warcross*) and June Iparis (*Legend*), highlight threats women face within a digital landscape, but also, their resolve and

resistance to cyber oppression. When positioning Lu's narratives through data feminism, this research reclaims the findings of the thesis and reiterates the fact that there is a need for changes in digital governance, so that virtual domains do not espouse gender violence against women and girls. The thesis notes that addressing Cyber and Data Violence Against Women and Girls (CDVWG) will require multifaceted and anticipatory frameworks. In doing this, I connect findings of using ethical artificial intelligence, enhancing digital policy, and worldwide teamwork to make internet spaces safer. Work frameworks need to keep evolving at comparable speeds to consider what is ethical use of technology, so that they are contributors to gender equality rather than perpetuating existing inequalities.

In conclusion, the thesis highlights data feminist approach to literary fictions encompassing elements of discrimination, privacy protocols, psychological complexities in the representation of technologies, characterizations, and themes from the select novels by Marie Lu. Additionally, the data feminist approach is not confined to a gendered, it also opens important discussions to provide opportunities to present data feminist approaches with mixed facts that will contribute to a better understanding of communities of women in cyberspaces.

The study's principal contribution is methodological and theoretical, which positions "data feminism" as an analytical approach to literature. It integrates Catherine D'Ignazio and Lauren Klein's seven principles of data feminism with Elaine Showalter's "three phases of feminism" and "gynocriticism" to examine the representation of gender and technology in Marie Lu's *Legend*, *Prodigy*, *Champion*, *Warcross*, and *Wildcard*. Through qualitative close reading and thematic analysis, the research explores how algorithmic systems in the select fiction construct the power, influence, control, and surveillance that impacted the privacy and psychology of the female protagonists and the marginalized people.

## Introduction

The division between two areas of the human intellect, the humanities and sciences, that represent the whole thoughtful existence, is split into two cultures that still prevail somewhere. Practitioners in both fields should build bridges for the improvement and well-being of human society and the ability to understand human sentiment in terms of science. This distance between the two cultures constitutes pragmatic and artistic loss and the intersection of these two clashing disciplines is a step in the right direction (Snow). The amalgamation of Science and Humanities on common ground and the breakdown of the distinction between the two can prove beneficial for enhancing knowledge. This unity between these aforementioned disciplines can aid in making the future completely developed in all aspects. For example, knowledge from multifarious specialized disciplines in science and humanities is a prerequisite for any government policy (Kaye).

Humanities are the academic disciplines that study human values and society using critical or analytical methods of inquiry (Terras). Humanities derive from the acknowledgment of human values and the unique ability of the human spirit to express itself. The fields of study in Humanities are Classical Humanities and Critical Humanities (Tava). The later evolved to embrace interdisciplinary paradigms, most notably through the emergence of *Digital Humanities*, a field that emerged from humanities computing in the 1940s and 1950s with the writings of two eminent authors, Roberto Busa in 1946 and English professor Josphine Miles in the 1950s, gained recognition in 2004 (Brown). The convergence of computing and humanities studies is the focus of this field, which is expanding. It is transdisciplinary in scope and methodological by nature. To this paradigm shift in humanities, we call *Critical Humanities*, which, by nature, is an assimilative, accumulative, hybridized, unpredictable, and hyperreflective discipline of knowledge.

Within this evolving framework, *Data feminism* emerges as a subfield, that explicitly investigates the implications of feminist theory on the study of the gendering of data, algorithms, and digital systems. Digital humanities is not accidental but imperative which embodies the broader aim of humanities that combines scientific methodologies with humanistic reflection (Meneses and Furuta). However, it is worth noting that women and women's perspectives have historically been overlooked or dismissed, and women were excluded from public discussion of their experiences in

both society and academia. The feminist struggle began with the revolutionary work of Mary Wollstonecraft, *A Vindication of the Rights of Women* (1792) that laid the foundation of the first wave of feminism and its literary critiques, such as Mary Ellman's *Thinking About Women* (1968), Kate Millet's *Sexual Politics* (1969), and Germaine Greer's *The Female Eunuch* (1970).

In the first wave of feminism, women won the right to vote, while the second wave fought to secure job opportunities for women. This political equality did not buy them social equality and the jobs were nothing but an extension of their nature. For example, Nurse, Teacher, etc. The second wave of feminism started in the 1960s and ended in the 1980s there was the use of two approaches: the Liberal Approach and the Radical Approach. The first approach was a result of first-wave feminism as they demanded social, economic, and educational equality. *The Feminist Mystique* (1963) played an important role to achieve this goal. The demands made by the liberal feminists caused the establishment of the National Organization for Women (NOW). Whereas the radical approach emphasized the elimination of male superiority and equality among men and women. It also recognized that women's experiences are also affected by social divisions. Simon De Beauvoir's *The Second Sex* (1949) where she talked about women are always perceived as "other"

The focus then shifted as the third-wave feminists started questioning whether all women are linked on the note of their common grievances. They took into consideration the contextual setup and for every woman, the context is different and hence, the struggle is different. The diversification came, which included marginalized women in terms of sex, race, class, ethnicity, etc., and the inclusion of each class, group, and ethnicity. Third-wave feminism includes several areas like Postcolonial feminism, Black feminism, Dalit feminism, etc. Third-wave feminism is influenced by Michael Foucault and Jacques Derrida's post-colonial and post-modern theories.

If we look at fourth-wave feminism, which roughly started in 2008 and is still present. It mostly deals with technology and how technical aspects are male-oriented. Fourth-wave feminism is defined by several writers like Kira Cochrane in her work *All the Rebel Women: The Rise of Fourth Wave of Feminism* (2013) as connected through technology. This research studied the technical aspects of this techno-modern society in terms of Data Feminism.

This research presents itself through the lens of fourth-wave feminism, which

is connected with digital age, and has highlighted the intersections between technology, online activism, health and gender justice. To explore this in a literary context, the work utilizes Elaine Showalter's *Towards a Feminist Poetics* (1979), and specifically, her discussion of the three stages of women's writings, the feminine, the feminist, and the female. In the feminine phase (1840–1880), women wrote in an attempt to equal the male intellectual achievements. The feminine phase is based on the imitation of the patriarchal structure of creativity. The feminist phase (1880–1920) focuses on the writings done by women in protest against male conventions and values, as well as the demands voiced by women for autonomy. The female phase (1920—present)<sup>1</sup> resulted in a rejection of male models entirely because women writers were engaged in producing new literature that was situated in their own experiences, in their own identity, or in their sexuality; in essence, women were focused on finding a female voice for authenticity (Showalter).

The study argues that the female phase continues to the present, in a new way that incorporates women's lived experiences in the datafied society. Women's identities today are not just based on their lived experiences but are increasingly shaped by technology systems – as women are profiled by algorithms, subjected to data surveillance, and also subjected to biases encoded in digital systems. Given how women's identities are problematic and increasingly commodified in a datafied society, the complexities of Showalter's model become more pertinent. To take this study further, it also utilizes Showalter's model of "Gynocriticism," which is based on a feminist literary theory that promotes alternative models of literary criticism in which female experience is centered, at the same time aiming to disrupt and replace the dominant male-centered paradigms. In particular, this study is using Showalter's four gynocritical models – biological, lingual, psychological, and sociological – to analyze how women's bodies, language, psyche, and social realities, mediated through a digital data context, are represented in literary texts.

To meaningfully consider these issues within the context of narrative fiction, I have used an integrated feminist theoretical framework using the novels of Marie Lu. Lu's speculative fiction – particularly the *Warcross* duology and *Legend* trilogy – explores dystopian digital spaces where gender-based power dynamics intersect with technological control, data manipulation, and algorithmic surveillance. To frame this work, I integrate Showalter's literary phase and gynocriticism models with the

principles of data feminism, developed by Catherine D'Ignazio and Lauren Klein, as an analytical framework.

Catherine D'Ignazio and Lauren Klein used the term 'data feminism' as the title of an edited volume, *Data Feminism* (2020), but there is no conceptual framework for the term. Hence, it needs to be considered in terms of academic and research to see data feminism as a conceptual framework for thinking about data science and ethics through the lens of independent feminist theory. *Data Feminism* (2020) centers on the case study of the real life of a woman named Christine Darden and how she exposed the injustices faced by women. The book examines the power structure that works in the world today and also highlights issues like black women's experiences during childbirth, missing data sets that white men didn't find important to collect, face detection software, structural privilege, and structural oppression (D'Ignazio and Klein). Data feminism's scholarship demonstrates how these unremarkable data science exercises reproduce existing inequalities in the world (Garbee). It is a timely opportunity to think about the prospects of data science and artificial intelligence in relation to intersectional feminist theory (Klein and D'Ignazio). Intersectional feminism is a term introduced in 1989, attributed to Kimberle Crenshaw, that identifies how various forms of oppression, such as racism, sexism and classism, can overlap to impact an individual. It also illustrates a need to amplify the voices of other who encounter these overlapping oppressions. Within data science, the intersectional feminist perspective emphasizes the importance of breaking down systemic oppression, often entrenched in digital systems. In today's society, where policies and narratives primarily benefit ruling authorities, an intersectional approach examines how to protect and empower individuals or groups that have faced discrimination, especially women, people of color, and individuals who identify as non-binary. At its core, feminism encourages equality across social, political, ideological, and economic spheres and strives to eradicate sexism and gender-based exploitation in all forms.

A review of the related literature takes into account earlier research projects completed by researchers who are connected to the current topic. The knowledge and information present a clear historical portrait of the study as it has been conducted to date. The thesis includes research papers and books based on the study of data feminism published from 1980 to 2022 (till the research is completed). The research review acknowledges platforms like PubMed, Springer, JSTOR, JAMA, The Lancet,

and books published by T&F, Springer, Vintage, Vivo, and the Indian publisher. I consulted the following established writers and research papers related to the topic.

Recent feminist scholarship has increasingly examined the gendered biases present in technological systems, bringing attention to the reality that digital spheres tend to amplify and reproduce existing forms of social inequality. Caroline Criado Pérez, in her incredibly informative book *Invisible Women: Exposing Data Bias in a World Designed for Men* (2019), explains that data collection and reasoning are male-oriented and biased toward atypical women (Perez). Criado Pérez investigates the gaps in data that women face in terms of default bias at home, the workplace, the public square, and the doctor's office in a male-dominant digital society, ultimately silencing women's experiences and needs in a male-dominant society (Cumur).

Likewise, and building on this idea of data barriers, Safiya Umoja Noble's work, *Algorithms of Oppression* (2018), interrogates how search engines, particularly Google's search engines, support the prejudices of society. Noble demonstrated how algorithms and architecture mirror and reproduce the explicit and implicit biases of their designers and developers, presenting a distinctly racial and gendered analysis of supposedly neutral technologies and systems (Noble).

Jenny Sunden and Susanna Paasonen investigate the ways digital platforms are often hostile places for women in their book *Who's Laughing Now?* (Sunden and Paasonen). Their analysis highlights the frequency of online sexism, hate speech, and harassment that attempts to silence women through fear tactics, mockery, and public shaming (Sunden and Paasonen). These hostile spaces complicate a wider pattern of gendered cyberviolence defined as "the use of ICT, specifically the internet, to perpetuate gender-based violence" by Hassan et al. in their study of Egyptian participants. They reported insights on gendered cyberviolence, including the levels of online abuse women experience and the psychological impacts of the abuse (Hassan et al.). Backe et al. offer a much broader literature review on cyberviolence, collaboratively mapping the rise of networked gender-based violence, which is "comprised of all online behaviors intended to harm women, girls, and gendered minorities disproportionately" (Backe et al.).

The relationship between gender and technology has long been a concern for feminist theorists. A foundational example in this tradition is Donna Haraway's *A Cyborg Manifesto* (1985), which presents the figure of the cyborg as a metaphor that

resists the binaries and embraces hybridity. Haraway's conceptualizations of the cyborg detach essentialist definitions of femininity and masculinity, and imply that the union of human and machine can detach identity from biological determinism (Haraway). Arguably, like Haraway, Judy Wajcman, in *Technofeminism* (2004), critically interrogates how gender is shaped in relation to technological systems. She argues that the technological sphere is not inherently neutral or objective, but reflects social and cultural norms, especially rooted in masculinity. In this way, Wajcman shows how binary oppositions between men and women are socially constructed, stemming from classifications of the world, and further argues for feminist scholars to challenge those distinctions (Wajcman). The field of cyberfeminism, as outlined by Toto et al. (2022), examines the different intersections between gender, cyberspace, and new media technologies. Their investigation positions cyberfeminism as an extension of fourth-wave feminism, comprised of feminist critiques, feminist theories, and feminist activism, situated in digital spaces.

Recent research in feminist theory, data science, and digital culture continues to reveal the individual and collective historical and contemporary entangling of gender and technology and the structural inequality resulting from it. In the article "Taking a Critical Look at the Critical Turn in Data Science: From 'Data Feminism' to Transnational Feminist Data Science,"

Zhasmina Tacheva (2022) provided a critique of data science as a system of injustice that data feminism supports by providing data scientists with thinking tools and methods to intervene and reorient their use of data towards equity and inclusion. Similarly, in the article "New Ways of Activism: Design Justice and Data Feminism, Sohana Nasrin (2023) conceptualizes data feminism as an intersectional inquiry approach, one that redevelops data science using the frameworks of feminist theory, design justice, and social justice activism. Sohana Nasrin (2023) expands on this discussion by reiterating how data feminism is based and aligned with the principles of design justice, advocating for strategies that make systems far more inclusive and equitable by ensuring the actual needs and lived experiences of marginalized communities in society.

Margot Lee Shetterly's *Hidden Figures* (2016) examines the historical exclusions of women, and women of color, through focusing on the under-studied contributions of African American women mathematicians at NACA and NASA.

Shetterly describes how the women in these roles identify as “computers” in conditioned work environments that were racially segregated, treated them as though they were incapable of career advancement, and put them up against institutionalized discrimination. Christine Darden’s ascent into the Senior Executive Service demonstrates the obstacles faced, as well as the tenacity of Black women in STEM careers.

Continuing this train of thought, Sheela Gole and Bharat Tidke (2015) examined how social media companies extract big data, but these tended to focus on the kinds of user-disclosed metadata, for example, location, language, biographical information, user links, etc., through digital surveillance or targeted marketing. In turn, this challenges further the construction of identity, privacy, and datafication. “A Survey of Big Data in Social Media Using Data Mining Techniques” (2015)

Elaine Showalter’s feminist literary criticism also provides valuable text to this conversation, as it detects cultural, psychological, biological, and linguistic differences for women. In her book *A Literature of Their Own* (1977), the author recovers women’s writing by reclaiming women writers’ narrative authority and lays claim to the potential value of women’s authorship as a type of culture and economic capital. In her later work, *The Female Malady* (1985), Showalter situates women’s intellectual inheritance and challenges the framing of female subjectivity in medical and literary discourse as pathology. Finally, in *Inventing Herself* (2001), Showalter chronicles the achievements and struggles of several generations of female authors, who all become writers and seek to author themselves.

### **Research Gap**

Data Science and Feminism are two different academic domains, but the knowledge-power nexus associates these two different domains to question female existence and the extent of justice. There is no intersectional research work done to fill the gap between the studies of data sciences and feminism, reflecting digital violence and women’s representation in terms of safety, security, and equal distribution of power with privacy. A few works, as mentioned in the review of research, sporadically raise issues related to the defined gap.

### **Research Objectives**

- To trace the history of feminism and data feminism
- To explore new insights by conceptualizing data feminism in terms of cyber and data violence against women and girls (CDVWG)
- To theorize Data Feminism by illustrating the concept with the select novels of Marie Lu
- To investigate how discrimination, misrepresentation, and devaluation of privacy protocols affect the psyche of women as represented in the select novels

### **Research Methodology**

The research study followed a Qualitative Research methodology to study critical insights into Feminism expressed in research and review articles. The study is conducted on research articles as secondary sources, and select five novels by Marie Lu as primary sources. The secondary sources would consist of the reviews, articles, and interviews of the writers and critics like Elaine Showalter, Catherine de Ignazio, and Lauren Klein published in various journals, magazines, and books. For consulting the resources, I consulted the digital library of LPU and related platforms like JSTOR. The style of documentation for writing references and the bibliography of sources is written in the latest 9th Modern Language Association (MLA) format.

Showalter's theory of feminism is applied to study the psychological, sociological, and female self in Marie Lu's select novels, but to understand patriarchal data science reflected in Marie Lu's feminism as demonstrated in her novels. Hence, there is a need to conceptualize data feminism to study other related aspects of her novels. A conclusion is drawn on the premise of analysis, interpretation, and evaluation of textual data. For convenience and clarity, I have divided the thesis into five chapters

In chapter one, I have structured the theoretical and conceptual framework and how it has been applied in the thesis. Elaine Showalter's "Towards a Feminist Poetics" (1979) and "Feminist Criticism in the Wilderness" (1985) talk about the three phases of the development of feminism and gynocriticism as enumerated above. The feminine phase, the third phase, talks about women's independent exposure to experiences and emphasizes sex as a creative force, as in women's writings. The select novels of Marie Lu are studied first through the lenses of the three phases of feminism and the four models of gynocriticism, finding which of the phases and models are applicable to

represent a creative force in the novels, with the hypothetical thought behind that the three phases would not be sufficient to understand the novel. In that case, a new phase called ‘data feminism’ would be conceptualized to read and understand the novels of Marie Lu. Can Marie Lu’s *Warcross* duology and *Legend* series be analyzed in terms of the three phases? The hypothetical answer is “no”. In this way, Showalter’s theory of the three phases of feminism is connected with data feminism. It justifies a rationale behind connecting Showalter’s theory of feminism with data feminism and Marie Lu’s select novels.

For example, Marie Lu portrays Emika Chen in all tough and daring situations of the digital world, where she is targeted, tested, startled, and intrigued on all fronts, physically, psychologically, emotionally, and intellectually harassed by a male game manufacturer/creator. Lu also showed the struggles that Emika faced after her discovery of new facts in the virtual gaming interface. Emika is seen challenging and getting frustrated with a bounty placed on her head, which was earlier given to her to track down players who bet on the game illegally (Lu). Lu talks about female experiences in the context of data, whereas Showalter’s theory of phases is limited to non-data subjects and themes. Showalter’s model has helped in understanding the psychological, sociological, and artistic self of Marie Lu and her female characters, but to understand the data worldviews of Marie Lu, a new model of feminism is required, i.e., data feminism.

Chapter two constitutes the author's contribution to English literary arts, her biography, and authorial intention. Marie Lu, a Chinese-American author born on July 11, 1984. Her early studies at the University of Southern California included biology and political science courses, which she blended with an internship as an artist at Disney Interactive Studios (Martaus). Lu is mostly known for the dystopian and militarized *Legend* series when she debuted *The Young Elites* series, the *Warcross* duology, and the *Batman: Nightwalker* in the DC Icons series. The *Legend* novel was published on November 29, 2011. *Legend* was the first book in a planned young adult science fiction trilogy. She tried to recapture the fight between Valjean and Javert in a teenage setting, drawing inspiration from *Les Misérables* (Wilkinson). The sequels *Prodigy* and *Champion* were released later. She made a debut in the fantasy series world with her novels *The Young Elite series*, *The Rose Society*, and *The Midnight Star*. Her vision, mission, philosophies of writing, and authorial intention are discussed in the

chapter. She established herself as a prominent figure in young adult literature, especially in STEM narratives. Her venture into science fiction with the *Warcross* duology is noteworthy for its inclusion in the “Best STEM Books 2018” list (“BEST STEM BOOKS”), reflecting Lu’s commitment to exploring real-world issues through the lens of science, technology, engineering, and mathematics (Hansen). While STEM-focused literature often delves into tangible scientific concepts, Lu’s *Warcross* duology takes a novel approach by immersing readers in virtual reality and the gaming industry (Lu). Lu’s inclusion in the STEM category is marked by her ability to intertwine cutting-edge technology with compelling storytelling, inspiring young adults to consider diverse career paths within STEM fields such as gaming and virtual reality. Through her *Warcross* duology and *Legend* series, Lu not only entertains but also educates, fostering an appreciation for innovation and creativity in the ever-changing landscape of technology.

Marie Lu, in her novel, *Warcross* series, makes Emika Chen, a female as the protagonist, portrays her in all tough and daring situations of the digital world, where she is targeted, tested, startled, and intrigued on all fronts, physically, psychologically, emotionally, and intellectually harassed by a male game manufacturer/creator. She discovered new facts in the virtual gaming interface that left her shocked and startled with the discovery of a bounty placed on her head, which was once given to her to track down players who bet on the game illegally (Lu *Warcross*). Marie Lu’s *Warcross* duology (2017) is well known as science fiction but contains reflections on gender violence. The *Warcross* game symbolically represents a male-dominated society where a female engineer is intrigued and targeted, harassed, and startled by new facts that are yet to be discovered. The novelist reflects on how digital literacy and education also seem to be a failure to act to control gender violence. Marie Lu’s *Wildcard* (2018), a sequel to *Warcross*, presents a trustless postmodern society under technological threats. For example, the portrayal of Emika as a woman who distrusts society by doubting everyone around her. It represents what can happen when a woman uncovers some hideous facts in the virtual world, misplaced by men (Hideo’s new NeuroLink algorithm). Her *Legend* series also highlights the technical control placed by the regime, “the Republics,” on their civilians. June Iparis, the protagonist, was subjected to trials, surveillance, digital manipulation, and loss of loved ones.

Chapter three discussed the issues of discrimination, misrepresentation that

women face in the digital world, which were explored in Lu's *Warcross* and *Legend* series. Discrimination and misrepresentation of women have been increasingly common in the digital world and other domains in recent years (Schiffrin et al.). These factors contribute to the subjugation of women, gender-based discrimination, the lack of proportional female representation, the existence of power imbalances, biases in algorithms concerning gender, misrepresentation of women in media, concerns over digital privacy, and the dissemination of nonconsensual pornography, among other related issues. Workplace discrimination in masculine occupations occurs when men are preferred over women; it takes the form of a preference for men. This leads to lowering female employment in masculine occupations (Zellner 157). Discrimination can be conceptualized as a manifestation of racism and white supremacy, which can be traced back to the complex interplay of privilege and oppression within societal structures. Significatory discriminatory outcomes could arise from this power oppression in the form of inaccurate or biased data, especially when it has the potential to result in discriminatory results, particularly concerning characteristics like gender and ethnicity. The term 'discrimination' has been used 34 times in *Data Feminism* to describe the causes, which include racism, gender issues, colour, refugees, and diasporic factors. According to D'Ignazio and Klein, discrimination is, therefore, "the intersecting forces of privilege and oppression at work in a given society." Numerous factors can lead to discrimination, including data that are inaccurate, biased, or unrepresentative and produce heavily discriminatory outcomes based on an individual's ethnic background, gender, nationality, race, or other attributes (Kim). Kimberle Crenshaw termed this "intersectionality" in the late 1980s to describe how these factors converge with one another. According to Crenshaw's "Mapping the Margins: Intersectionality, Identity Politics, and Violence against Women of Color," "race, gender, and other identity categories are most often treated in mainstream liberal discourse as vestiges of bias or domination." The idea examines the structures in which power is exercised and excludes the marginalized.

Chapter four examines the psychological complexity induced by women's digital health and looks at how a woman's gender influences her physical and mental well-being. Devaluing privacy mechanisms is synonymous with devaluing data. To prevent sensitive cardholder data from being sent to point-of-sale systems or compromised in any other way, card networks, issuers, processors, and merchants

employ the devalue-the-data approach, ensuring that sensitive cardholder data is not transmitted to the point-of-sale systems or otherwise compromised. Protecting financial and personal information is more crucial than ever in the current digital economy since the devaluation of women's data creates privacy concerns, leading to significant psychological complications.

The increasing impact of the progression of technology on the digital environment raises ethical concerns. Policymakers and regulators may find that the new academic subject that seeks to address these issues, which is referred to as "digital ethics," has the potential to serve as a useful source of information. The scope of the field of digital ethics is shown using an interdisciplinary strategy. Furthermore, while some critical ethical values are essentially ignored in one domain and applauded in another, a solid understanding of all the tough ethical issues is required. Ethicists, policymakers, and legal experts must have a good grasp of concrete, applied work developed to deal with the range of hard ethical challenges of a digital society.

In order to protect individual rights, a universal data privacy standard is required (Rustad and Koenig 365). For assessing privacy and privacy-related indicators, the criteria that are mostly neglected are ownership of data, confidentiality, permission systems, auditability, consent, notice of use, disclosure, authenticity, anonymization, retention, and access. This requires data security strategies to protect user information. Consequently, data security can be defined as limiting access to a dataset to the individuals who have been cleared to view it. By assessing current data security, it can assess how these facts mediate the enforcement of data privacy rights. Data security and illegal usage are not the only issues with data privacy. There are several ways to alert interested parties. Artificial Intelligence is one of the recent inventions that has started interfering with the lives of humans, which is a driving force behind recent advancements in cyber defense. Data feminism targets the privacy-related issues faced by women and minorities. To better comprehend the relationship between AI and these problems, security measures are built on a foundation of tools like platform complacency, intelligent trees, modeling techniques, and outage management systems. Marie Lu exemplifies these measures of privacy protocols. The goal of data feminism is to challenge the privacy issues faced by women in the technical world in the context of data. It is necessary to analyze what information needs to become data before it can be trusted and what information needs to become data before it can be accepted as truth

and acted upon. The word data feminism refers to any knowledge that may be utilized to plan something that involves the interests of women.

Chapter five is an application of all the principles of Data feminism on Marie Lu's themes related to cyber and data violence. I have discussed how data science and feminist thought have come together to try to create a more inclusive framework that involves fair data practices while concentrating on a range of women's experiences. Although this data is seen as unbiased, it is not; biases affect it, and it makes assumptions about people, where it holds the ability to overlook some people while favoring others. Additionally, data has a significant impact; it can affect people's interactions and decision-making, enabling businesses to create personalized experiences and direct tailored advertisements. This leads to the loss of personal information that is collected without consent, impacting the individual's psyche. Additionally, governments and organizations might utilize the data to monitor citizens for security reasons. It may also result in data breaches where personal data can be used to exploit an individual for malevolent purposes and financial gain that might result in long-term emotional misery for the victim. The idea is that algorithms are androcentrically constructed. Algorithms on digital platforms require a vast quantity of data to work, such as location, browsing history, gender, etc., which are essential in decision-making. For example, Emika Chen, the female protagonist in *Warcross*, offers a vivid illustration of how data and algorithms interact with privacy, identity, and surveillance. The domination of virtual reality in the form of a Warcross game shaped day-to-day existence with algorithm-driven systems and data manipulation. Due to the prevalence of NeuroLink, an algorithm designed by Hideo Tanaka to anticipate and influence human behavior, which goes to the extent of controlling their minds, as well as something that is unsettling and has privacy-related issues.

The privacy of women and girls is at risk due to cyber and data violence, which is caused by gender inequality, discrimination, systemic prejudices, a lack of understanding and education about digital safety, and the impact of social media and technology. Technology, which once served as a means of empowerment and connection, is now being used to exploit and abuse people, particularly women. In the digital era, cyber and data violence against women and girls is prevalent and involves stalking, doxing, cyberbullying, and non-consensual posting of personal pictures. Online gender-based harassment has become more common as more individuals use

the internet for socializing, business, and education. Recavarren and Elefante argue that “95% of online aggression, harassment, abusive language, and denigrating content are directed towards women.” To model a deep learning system to combat cyber and data violence against women and girls, it is essential to establish data feminism as a research technique. It will consider the concerns that are raised by the data exploitation and cyberattacks, which leave a lasting impact on the psyche and emotions of women and girls. It also emphasizes the necessity of programs that can detect violence and respond to it.

## **Chapter 1**

# **Showalter's Model of Feminism and the Emergence of Data Feminism**

## 1.1 Introduction

This chapter endeavors to map out the development of Feminism and Data feminism. The study interacts with Showalter's three phases: Feminine, Feminist, and Female phases for the development of feminism, and four models of gynocriticism (Biological, linguistic, psychological, cultural) in her work "Towards a Feminist Poetics" (1979) and "Feminist Criticism in the Wilderness" (1985). These frameworks are used to analyze Marie Lu's *Warcross* and *Legend* series to help determine whether the theories can adequately explain the experiences of women living in an age of technological constructs. The chapter treats Data Feminism as an expanded critical lens to further develop Elaine Showalter's Theories through the analysis of Emika Chen (her surveillance, algorithmic manipulation, and Techno-Androcentric Domination).

## 1.2 Brief Historical Overview of Feminism

Feminism is a socio-political movement concerned with women's liberation from patriarchy and their right to live. It talks about the equality of women in all spheres. Feminism is a social and political movement that began with the Suffrage Movement in the USA (Jaber). The traditional view of the first wave of feminism was focused on achieving the right to vote, and the second wave of feminism emphasized women's liberation and economic parity (Marino and Ware; Wyre; Dicker). The shift from androcentric to gynocentric feminist criticism was made possible through notable works such as Mary Wollstonecraft's *A Vindication of the Rights of Women* (1792). Feminist work explores the oppression of women by targeting the system that deliberately shapes her by making her incapable of doing things that men can do (Wollstonecraft); Virginia Woolf's *A Room of One's Own* (1929), where she asserted that a woman needs privacy and a place of her own, which can lead to the creation of quality, enriched literature (Woolf); Beauvoir's *The Second Sex* (1949) targeted the imbalanced gender roles, and the societal construction of women as "other," she also emphasized on the creation of a society where women no longer rely on masculine dominance (Beauvoir); Mary Ellman's *Thinking About Women* (1968) attacks the stereotypes and bias against women (Ellmann); Kate Millet's *Sexual Politics* (1970) examined the power distribution and how this patriarchal power undermines a woman's place in society (Millet); Elaine Showalter's *A Literature of Their Own* (1977) demanded women's literature and critical theories. She split women's literature into

phases (Showalter); Ellen Moers' *Literary Women* (1976) examines the literary influence that the women writers have amongst themselves, the distinctive difference in experience they feel in comparison to their male counterparts (Moers). Sandra Gilbert and Susan Gubar, in their work *The Madwoman in the Attic* (1979), talk about the struggle of female writers, which gets complicated by the male intervention between "herself and herself" and the female struggle in escaping male designs (813). As noted by the Council of Europe, feminism aims to eliminate discriminatory practices and gender-based oppression rooted in sexism, sexual exploitation, and oppression, and to establish equality in all social and political practices. There is the theory of feminism in general, with which Elaine Showalter also tried to define the developments of Feminism in terms of literary creativity through phases/stages: the first, second, and third. The first wave of feminism included the fight for women's right to vote in elections (Marino; Katzenstein). The concept of "feminine mystique" by Betty Friedan, introduced in 1963, played an important role in critiquing the societal status of women (Friedan). The demands made by the liberal feminists caused the establishment of the National Organization for Women (NOW), in 1966 to fight for gender equality (Brenner and Luce). At the same time, the radical approach emphasized eliminating male superiority and equality between men and women. It also recognized that women's experiences are affected by social divisions. Simon De Beauvoir's *The Second Sex* (1949) has been instrumental in introducing the concept where women are perceived as "other" (Beauvoir; Tidd). While men were considered the dominant beings, regulators, and governing bodies, women were considered subordinates. They are advised not to participate in personal achievements because they are half or partially intellectual. 'Feminism' and 'Feminist Movement' started to be used by the end of the 19th century.

### **1.3 Showalter Model of Feminism**

In the entire history of literary criticism, Elaine Showalter occupies a distinctive position as one of the very few critics who systematically traced the phases of feminism specifically through literary creativity (Showalter, "Feminist Criticism"). Showalter distinguishes between the history of feminist criticism and "gynocriticism," where Feminist criticism talks about women as readers, while "gynocriticism" holds that women are both the authors and readers of the text. She talks about the good editions of primary texts, which ultimately pave the way for intelligent criticism (Showalter,

“American Gynocriticism”). She relates male-dominated treatment of anti-feminist themes like hysteria and insanity as women’s diseases (Showalter, “Victorian Women”). She elucidates how the autonomy of female identities is challenged by androcentric wisdom (Showalter, “Killing the Angel”); reopens the Freudian concept of hysteria and comments on hysterical association with women’s identity and existence (Showalter, “On Hysterical”); relates the concept of women’s identity to the contemporary changes brought forth over time (Showalter, *Twenty Years*); criticizes practices of women’s name as pseudonyms identities. Showalter also critiques the practice of women adopting male pseudonyms, arguing that authorship has historically been framed as gender-neutral in theory but gendered in practice (Showalter, “Dinah Mulock”). Rather than denying gendered inequality, Showalter demonstrates how women were compelled to mask their identities to gain literary success. This critical stance explains her appreciation of the Women’s literary production during the Harlem Renaissance, particularly Black women’s fiction (Showalter, “The Development”). At the same time, Showalter highlighted the domestic and professional violence against women unconventionally (Showalter, “Rethinking the Seventies”). She further offers a sustained analysis of the androcentric system that governs the mainstreaming of knowledge (Showalter, “Shooting the Rapids”). Extending this critical engagement, Showalter elucidates how “innocent children shall be made to suffer for the sins of the fathers” (Showalter, “Dickens’s ‘Little Dorrit’”). She interrogates medical practices and their historical failure to consider women’s bodily autonomy and consent (Showalter, “Improving the Position”). Her essay “Victorian Women and Insanity” particularly foregrounds the rebellious nature of women who resisted domestic confinement, highlighting how deviation from prescribed femininity was medicalized as madness. Hence, a review of Showalter’s extensive scholarship reveals her sustained engagement with the question of female authenticity in literary authorship, an intellectual commitment that remains unparalleled among feminist literary critics.

The different schools of feminism, such as Liberal feminism, which pushes for gender-neutral policies that emphasize equality across social, political, and economic spheres (Fineman). While Radical feminism identifies the main reason behind women’s discrimination and marginalization as being due to patriarchy, which is the most universal form of domination (Vukoicic). They targeted men who oppressed women; hence, patriarchy must be challenged for the safety and security of women

in society (Krane). Socialist feminists are committed to challenging and changing the forms of 'capitalist patriarchy' that oppress women (Eisenstein 196). The second wave of feminism during the 1970s and 1980s led to the institutionalization of women's studies as an academic discipline across universities worldwide (Coate).

The focus then shifted as third-wave feminists started questioning whether all women are linked on the note of their common grievances. They took into consideration the contextual setup, and for every woman, the context is different, and hence, the struggle is different. Third-wave feminism encompasses several areas, like Postcolonial feminism, Black feminism, Dalit feminism, etc. Third-wave feminism is influenced by Michael Foucault and Jacques Derrida's post-colonial and post-modern theories (Shugart et al.). The third wave of feminism is characterized by a focus on intersectionality with overlapping categories, such as race, class, gender, and sexual orientation (Mann and Huffman; MacInnis; Hancock). In response to the racial and ethnic marginalization of women, women-of-color adopted the term to redefine the discourse (Lotz 4). The fourth wave of feminism is characterized by its engagement with digital technologies and social media (Shiva and Kharazmi; Maclaran; Toto and Scarinci). Virginia Woolf asserted, "I thought how unpleasant it is to be locked out; and I thought how it is worse perhaps to be locked in..." (27). It shows a relationship with the modern technoandrocentric society, where a woman is bound by technology, which can be reflected in Caroline Criado-Perez's *Invisible Women* (2019), where she targets the default setting meant for men. This data bias has locked women in a place whose exit point is controlled by men (Perez).

Elaine Showalter, a prominent feminist literary critic, represents women in literature. Her prominent works include "Feminist Criticism in the Wilderness," "Towards a Feminist Poetics," and *A Literature of Their Own*. *A Literature of Their Own* introduced three stages or phases in women's literature: Feminine, Feminist, and Female stages. "The Feminine phase" began in the 1840s and continued until the early 20th century. During this time, women writers were largely confined to writing about domesticity and their own experiences as wives and mothers. This phase is characterized as a phase where "women wrote to equal the intellectual achievements of the male culture, and internalized its assumptions about female nature" (Showalter 35). The most characteristic sign that was prevalent in this phase was the usage of male pseudonyms. These pseudonyms were George Eliot, Currer

Bell, Ellis Bell, John Law, Cotton Mather Mills, and Acton Bell (Jung). Male pseudonyms were viewed as proof of feminine "anxiety of authorship," a fear that she thinks she cannot become the primary creator of the text (Gilbert and Gubar, "Infection in the Sentence"). On the other hand, some American women during the same period adopted super-feminine pseudonyms such as Flora Fairfield. This phase is based on the imitation of the patriarchal structure of creativity, which they perceived as a male prerogative.

"The Feminist Phase" began in 1880 and lasted until the 1920s. During this time, women writers began to challenge traditional gender roles and explore social and political inequality. The feminist phase focuses on the writings done by women in protest against male conventions and values, as well as the demands voiced by women for autonomy. This was characterized by a generation of women who understood their roles in terms of their responsibility to their sisters. Examples were 'Amazonian Utopias' which came into being in the 1890s, such as Virginia Woolf in her collection of essays, mentioned life as a "luminous halo," the one that encloses our existence from the beginning of consciousness to the conclusion (Webb). Elizabeth Corbett's *New Amazonia* (1889) envisions an ideal country governed by women, a feminist society that is against oppression and binaries (Lake; Umerez and Mestres).

According to Showalter, the "female phase" (ongoing since 1920) is a stage in women's writing that occurred during the late 19th and early 20th centuries. During this period, women writers were exploring their own identities and experiences and writing about women's issues and perspectives. They were also challenging the traditional roles and expectations placed on women in society. Showalter argued that "the female phase" was a significant and necessary step in the evolution of women's writing, as it allowed women to define themselves and their experiences as distinct from men's. It paved the way for later feminist movements and laid the foundation for a more diverse and inclusive literary canon. This third phase can be referred to as the period of self-recognition and new learning. This stage started in the 1990s and is still going on presently. Women authors such as Virginia Woolf and Dorothy Richardson started revealing their minds in terms of sentences, 'masculine' journalism, and 'feminine' fiction. Women authors now have more freedom to explore a larger range of topics and writing genres throughout this period. The women in this stage reject the notion of imitation and put their attention on writings that are based on the experiences of women

(Showalter). Searching for her own identity and voice, sexuality was considered a potential creative outlet. According to Showalter, this phase is a quest for identity. This final and most important stage in the development of feminist critique and feminist literature includes the feminist critics who are emerging in the post-modern era, such as Showalter herself. This stage can target issues that are responsible for women's suppression and dependency and can lead to women's issues that can threaten their identity and suppress their perspectives and experiences.

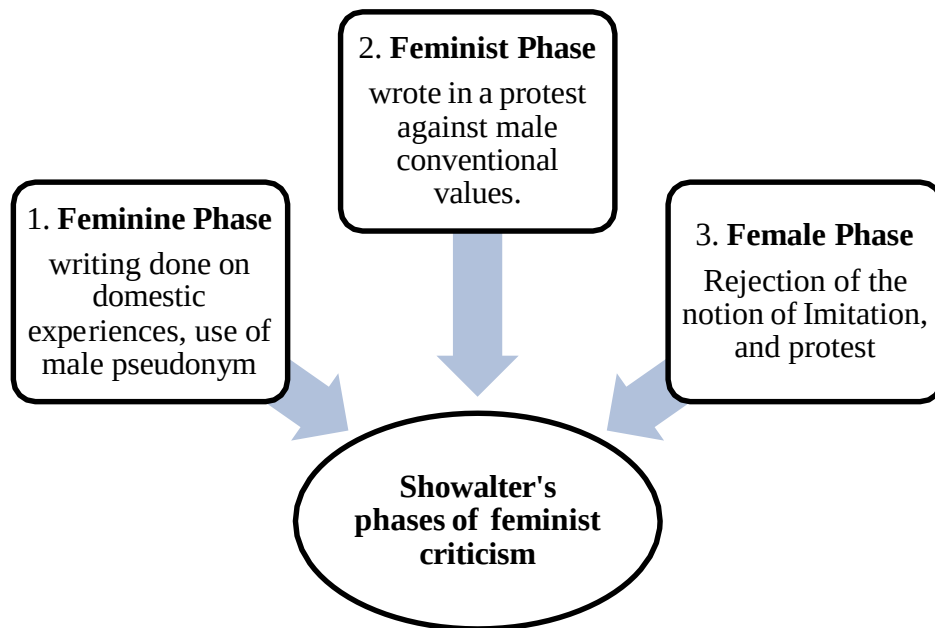


Fig. 1. Showalter's Phases of Feminist Criticism

The two distinct modes of feminist criticism, according to Showalter.

- a) Women as a reader (Ideological)
- b) Women as writers (Feminist Reading or Feminist Critique)

The ideological mode is concerned with feminists as *readers*. The ideological mode offers a feminist reading of the texts in which the female interpreter is free from the bounds of preconceived parameters and stereotypes and omits the misconceptions about women set by masculine criticism. Simon de Beauvoir's *Second Sex* talks about how a woman is treated below their male counterparts (Beauvoir).

The focus of feminist criticism has changed from critical readings to an extensive study of literature. Furthermore, it focused on subjects with more emphasis on the subjects, genres, style, themes, and history in women's writings. Until then, no English term existed to analyze women's literature, when Showalter coined the term "Gynocritics" to analyze primary sources for feminist research. As noted by Hartanto

and Roifah, the four models of Gynocriticism are “women’s writing and women’s body, women’s writing and women’s language, women’s writing and women’s psyche and the last is women’s body with women’s culture” (157). They are also considered the models of sex difference: biological, linguistic, psychoanalytic, and cultural. According to Showalter, the purpose of constructing gynocritics is to provide a female framework that is not dependent on the male critical literary tradition. This concept can aid in the development of new models and theories, and in analyzing women’s literature, sentimental or science fiction. The need for new models based on female experiences targets the contemporary demand that addresses the experiences and issues of modern women in terms of data that in no way depends on the male literary tradition. All that a woman wants to express that is related to mind and body is repressed, due to which she limits herself within the confines of masculine limits created for her. The contemporary technology-driven society, in terms of women, has different issues to address, for which new approaches are required to make society free from gender biases. New models are needed that can target the female experiences that are free from gender biases and fixation of identity within a construct made by men. Donna Haraway’s “A Cyborg Manifesto” talks about a cybernetic organism that is free from the biological construct that does not fit into any category (Haraway). Caroline Criado Pérez’s *Invisible Women* (2019) is about data that is male-oriented and biased toward atypical women (Perez). Helen Cixous’s “The Laugh of the Medusa” introduced the concept of ‘*Écriture Féminine*’, and asserted that no literature or text is available to mark femininity. She asserted that the ultimate freedom of women’s writing reasserted women’s values, demanding a theoretical project of feminist criticism (Chakraborty); Mary Shelley (Shelley) also experimented with a radical combination of natural elements with unnatural phenomena to justify female intellectualism, resulting in *Frankenstein*.

#### **1.4 Emergence of Data Feminism**

There are books and literature that target data bias and power dynamics in a society. Catherine D’Ignazio and Lauren Klein’s *Data Feminism* (2020) highlighted why data science needs feminism by proposing seven principles of data feminism: examine power, challenge power, elevate emotion and embodiment, rethink binaries and hierarchies, embrace pluralism, consider context, and make labor visible (D’Ignazio and Klein 213). Data Feminism is based on the unequal power dynamics that are set in

society (D'Ignazio and Klein). The need for Data Feminism is prevalent because, with the help of data science, we can wield the unequal power structures that privilege one section over the other. It believes in equality, which in turn is in terms of data and to challenge that thought, Catherine D'Ignazio and Lauren Klein wrote a book with "data" in the name. This book targets the issue of women, queer people, non-binary people, and men. It encloses the experiences that can be analysed from intersectional feminist thought.

Currently, data science is a challenge for women, as the field is being regulated by male-oriented regulations. The technology-based contemporary world and the system, be it gadgets, has no specific detectors that can detect an image's obscene nature and stop it right before the input is given and processing starts. In this technomasculine world, there are limited provisions for women's data security, due to which their professional information becomes vulnerable to being mishandled by unauthorized parties. From the data and a feminist point of view, women are not equally treated.

Data feminism's research reveals how the data revolution-enabled applications are violating the expectations of consent activities, thereby perpetuating inequalities that already exist in the world (Tanweer). To understand the extent of the injustices faced by women, a need for feminism is required to take into consideration the interests of the oppressed. To eradicate such oppressive forces with the help of data science, where it became a political and social need to target these harmful policies that support the people in power, to further the oppression of marginalized communities. Feminism also talks about equality among binary opposites in the social, political, ideological, and economic fields.

### **1.3.1 Examining Control**

To examine power means to analyze how power operates in the world and how women, particularly black women, suffer from a lack of data availability to document their problems. It examines the reason why there is missing data by targeting the imbalanced power structure. There is a chapter titled "the power chapter" in *Data Feminism* (D'Ignazio and Klein 21), which begins by asking questions about the hegemonic control of people in power, its intersection, and highlights the problems a woman has to face that influence her health. This "power chapter" targets the issues of racism, sexism, and biases. Power is exercised in a society with a dominating group, in

particular men, oppressing women according to their likes without even considering their suffering (D'Ignazio and Klein 24).

Now the real question arises: Is data neutral? The raw data is collected, analysed, segregated, and distributed in any way free from bias. This data collection is sometimes not neutral, and the problem is that data about minoritized groups is missing. Furthermore, institutions in power collect and structure data on the overzealous surveillance of marginalized communities (women, people of color, and poor people). Virginia Eubanks's *Automating Inequality* recounts this data collection in the case of minoritized groups, where an algorithmic model is used to determine the likelihood of child abuse in every given home (Eubanks). The model's objective is to take kids out of possibly abusive homes before anything happens. It is full of bias because it is determined by the economic status of the parents, for parents who are more affluent and have easier access to private health care and mental health providers are somewhere free from anything that is being recorded. For parents who are more frequently relying on public resources, the system collects data from sources where it is overexpressed. Poor parents have significantly more data, which oversamples them in the model, increasing the likelihood that their children would be in danger of abuse (D'Ignazio and Klein 39).

What is power, how does it control society, and how can it be targeted with enough proof to challenge and change? The datasets and the algorithms that govern our lives are not visible to us, but in reality, they control us. *Data feminism* starts with analyzing how power functions in the modern world. It examines power operation by asking "who questions" (D'Ignazio and Klein 47) about data science. Furthermore, these questions are linked to the exclusion and inclusion of interests whose welfare is being considered. The people in power will be privileged "people from dominant groups," which has resulted in a "privilege hazard" (D'Ignazio and Klein 47). The daily revelations of domination help in understanding the unequal power distribution (D'Ignazio and Klein 47).

Data science work is to avoid creating barriers based on any specific qualifications, such as professional illness, the volume of data, the complexity of technical procedures, or other external indicators of knowledge. It must work to incorporate equality, considering everyone's interest rather than excluding, as per its profits and gains.

How did we get to the point where data science is used almost exclusively in the service of profit (for a few), surveillance (of the minoritized), and efficiency (amidst scarcity)? It's worth stepping back to make an observation about the organization of the data economy: data are expensive and resource-intensive, so only already powerful institutions—corporations, governments, and elite research universities—have the means to work with them at scale. These resource requirements result in data science that serves the primary goals of the institutions themselves. We can think of these goals as the *three Ss*: science (universities), surveillance (governments), and selling (corporations). This is not a normative judgment (e.g., “all science is bad”) but rather an observation about the organization of resources. If science, surveillance, and selling are the main goals that data are serving because that's who has the money, then what other goals and purposes are going underserved? (D'Ignazio and Klein 41)

In this way, examining power is directly linked to recognizing the institutions responsible for oppression, enjoying their dominance in the data science industry, healthcare institutions, and private organizations, which are highlighted through the fiction. In the *Warcross* duology and *Legend* series, these organizations are Henka Games and Republic; they operate under the pretense of protection and rationality through the trials in the *Legend* series, and NeuroLink acts as an institution of power in the *Warcross* duology.

### **1.3.2. Challenging Control**

Challenging Control is a laborious job; it demands great efforts of data science to counterattack the existing power hierarchies and to work towards an unbiased perspective. It also demands facts that are related to the missing data and compiling data, as Catherine did in the ‘challenging power’ chapter, where she obtained data about the black children who were killed by white men over six months. Furthermore, gathering data in support of this deadly act due to the paucity of records is the biggest challenge. Counter data was compiled to challenge it, in which D'Ignazio and Klein, with others, quantified this structural oppression and stated that four major starting points exist through which power can be challenged.

(1) *Collect*: Compiling counterdata—in the face of missing data or institutional neglect—offers a powerful starting point ... (2) *Analyze*: Challenging power

often requires demonstrating inequitable outcomes across groups, and new computational methods are being developed to audit opaque algorithms and hold institutions accountable. (3) *Imagine*: We cannot *only* focus on inequitable outcomes, because then we will never get to the root cause of injustice. In order to truly dismantle power, we have to imagine our end point not as “fairness,” but as co-liberation. (4) *Teach*: The identities of data scientists matter, so how might we engage and empower newcomers to the field in order to shift the demographics and cultivate the next generation of data feminists? (53)

Analyzing and exposing oppression is, in a way, linked with factors that the people in power use to control by controlling data and using that data according to their gains and to further retain their place in power. Race is, therefore, one of the factors that are present in the data they are using, despite the algorithm developers' claims to the contrary. In addition, they are also using that data to further disadvantage black women because they might consider their data as objective and maybe because they are unaffected by the facts of how racism is manifesting itself through their technology. Therefore, technology, which is the prerogative of people in power, is required to ensure fairness by creating technology that works in the favour of everyone.

The records that we have in the form of data are always social outcomes where data and machine learning are entirely dependent on the historical data that is fed to the computer, with the help of which it can predict. This stereotypical prediction of the future based on artificial learning essentially perpetuates demographic inequalities already present, increasing societal injustices that have historically restricted particular communities. The authors of the book have disclosed their identities and positionalities in order to free themselves from biased opinions and are transparent with their claims.

In the *Legend* series, the secret blogs of Metias act as a “counterdata” that exposed the Republic’s corruption and the plague they pumped into the systems. This secret data exposed the truth behind June and Metias’s parents’ unexplained death. The same counterdata is provided by Mari, a female engineer, to expose the increase in the number of suicides after the implementation of NeuroLink, which connects the beta lens glasses with the brains of the users.

### **1.3.3 Raising Emotional Expression**

The third principle in *Data Feminism* is to “elevate emotion and embodiment.” This principle highlights the fact that data is not just a cold, hard set of numbers but is

also deeply intertwined with human experiences and emotions; its focus is on acknowledging emotions. Traditionally, data and technology have been approached from a perspective that values objectivity and rationality while disregarding the emotional aspects of human experience. However, D'Ignazio and Klein argue that emotions and embodiment are essential dimensions of data that should be recognized and incorporated into the discourse. For example, data can significantly impact people's lives, and it's important to consider the emotional implications of data-driven decisions. Additionally, data collection and analysis can be inherently biased, so it's crucial to incorporate diverse perspectives and experiences to create a more complete picture. To perform this procedure effectively, it is required to give importance to elevate emotion and embodiment in data work. In this chapter, the focus is on the emotion and its expression, with particular emphasis on data visualization and how it demands the incorporation of an expression of emotions. It involves: "Four conventions which imbue visualizations with a sense of objectivity, transparency, and facticity. These include: a) two-dimensional viewpoints; b) clean layouts; c) geometric shapes and lines; d) the inclusion of data sources" (Kennedy 1). It challenges the thinking categorizing emotions as irrational and illegitimate, even as it undeniably influences the world's social, political, and scientific processes.

Targeting racial and gender inequalities is the main aim of the book, a reference to the Guerrilla Girls, a feminist collective known for its activism in the art world. They highlighted the inequalities faced by women in the art world and beyond. They stressed nakedness and women's entry into the Museum. With the intersection of data and feminism, the authors exposed the disparities and advocate for change in society by highlighting the importance of data and technology to address inequalities and therefore striving to achieve feminist goals (D'Ignazio and Klein 85).

*A Sort of Joy* deploys wholly different tactics to similar ends. The performance starts with a group of white men standing in a circle in the centre of the room. They face out toward the audience, which surrounds them. The men are dressed like stereotypical museum visitors: collared shirts, slacks, and so on. Each wears headphones and holds an iPad on which the names of artists in the collection scroll by. "John," the men say together. We see the iPads scrolling through all the names of the artists in the MoMA collection whose first name is John: John Baldessari, John Cage, John Lennon, John Waters, and so on.

Three female performers, also wearing headphones and carrying iPads with scrolling names, pace around the circle of men. "Robert," the men say together, and the names scroll through the Roberts alphabetically. The women are silent and keep walking. "David," the men say together. It soon becomes apparent that the artists are sorted by first name, and then ordered by which first name has the most works in the collection. (D'Ignazio and Klein 86)

Furthermore, the talk is on the rationality and objectivity of data and how data visualization conforms to the need for what the eye can visualize and comprehend. It asks questions about data visualization, which prioritizes rationality, thereby ignoring emotional values (D'Ignazio and Klein 95).

Regarding data visualization, what is excluded is emotion and affect, embodiment and expression, embellishment and decoration. These are the aspects of human experience associated with women, and are thus devalued by the truth of our master stereotype (D'Ignazio and Klein 96). The real question is related to data collection, which primarily relies on numerical values and brief questions that only quantify basic details, such as sex, age, height, etc. These instruments lack the depth that outlines the human narratives. This collection of data can be quantitative or qualitative, while the latter is challenging to clean and compile. As the authors exclaimed, "The process of converting qualitative life experience into data always necessarily entails a reduction of that experience ..." (D'Ignazio and Klein 98). Feminist sociologists like Ann Oakley talked about the dissatisfaction with quantitative methods that resulted in the increasing appeal to other methods, like qualitative ones (248). She further went on explaining, "Women and other minority groups, above all, need 'quantitative' research because without this it is difficult to distinguish between personal experience and collective oppression" (Oakley 251).

#### **1.3.4 Revising Binaries and Order**

From challenging control and power, other systems of oppression hold onto their power by making a classification based on binaries, thereby rigidifying their hold.

Counting and classification can be powerful parts of the process of creating knowledge. But they're also tools of power in themselves. Historically, counting and classification have been used to dominate, discipline, and exclude. This is where the fourth principle of data feminism, *rethink binaries and hierarchies*, enters in. The gender binary offers a key example of how

classification systems are constructed by cultures and societies and reflect both their values and their biases. The cases of the TSA airport scanners, Facebook user profiles, and plain old pants show us how gender and sex binaries—along with scientifically incorrect understandings of both gender and sex—get encoded into technical systems (and also jeans)! Those systems, in turn, recirculate erroneous and harmful ideas. (D'Ignazio and Klein 122-123)

“Data feminism insists that the most complete knowledge comes from synthesizing multiple perspectives, with priority given to local, Indigenous, and experiential ways of knowing” (D'Ignazio and Klein 18). In this chapter, ‘Rethinking Binaries and Hierarchies’, which is most obvious in the context of data and technology, the authors argue about the traditional ways that we employ to think about data, by reinforcing binary thinking. This categorization of data as subjective or objective, factual or biased, quantitative or qualitative can limit our understanding of the complexities of data and can maintain the existing power dynamics. For example, Maria Munir, a British college student and non-binary mentioned the annoyance caused every time while creating a new account on some websites. The website requires information about the gender ‘male or female’, which is difficult to answer for many non-binary individuals. Furthermore, it creates problems in creating bank accounts and applying for a passport, which is annoying at the same time (D'Ignazio and Klein 97). The authors suggested more inclusive approaches, thereby challenging fixed categories and considering multiple perspectives. Classification into categories is done by everyone. Gender is a social construct in which women are considered inferior to men. After this categorization and classification, which is evident from history till the present time, the shift in this categorization is now done in terms of data. The information that is gathered is classified only when it is recognized as data.

A simple solution might be to say, “Fine, then. Let’s just not classify anything or anyone!” But the flaw in that plan is that data must be classified in some way to be put to use. In fact, by the time that information becomes data, it’s already been classified in some way. Data, after all, is information made *tractable*, to borrow a term from computer science. “What distinguishes data from other forms of information is that it can be processed by a computer, or by computer-like operations.” (D'Ignazio and Klein 103)

Data sets are always created from a tangle of historical events, ideological

reasons, and pragmatic considerations. Data must therefore be evaluated using a critical framework sufficiently strong to allow for full acknowledgment and exploration (Posner and Klein 3).

Additionally, this chapter challenges the hierarchical structures within data and technology. Algorithms and data practices are considered to be reinforcing existing hierarchies and inequalities in society. This means that if the collection of data is biased, it will perpetuate discrimination against the marginalised. The counting and classifying are considered unbiased only if there is “transparency” in the way that data is being used to create knowledge. The concern behind this is big, which is linked to whose interests are being served. It is not always linked with oppression, as the authors exclaimed, it can also be to hold institutions, organizations, or systems responsible for it (D’Ignazio and Klein 123).

These binaries are real versus virtual in the novel *Warcross*; the game constantly gets blurred into the two. Hideo’s technology makes it impossible to separate human experience from data. The digital world is filled with human flaws, whereas the real world is shaped by algorithms. The data is quantified through numbers and brief questions, but in the novel, the reason for suicide is the lack of understanding towards good or bad, with no scale to measure the in-between. NeuroLink implementation forced people, making them indecisive because the algorithms know only binary distinctions. Lu shows that human emotions and data are intertwined through Emika, who straddles both worlds, refuses to stay in one binary, and becomes a hybrid by not sticking to one side. June’s transformation from rationality to empathy also made her embrace the binaries.

### **1.3.5. Embracing Multiplicity**

Embracing pluralism is the fifth chapter of the book *Data Feminism*, the authors argue that to embrace pluralism, we must take into consideration multiple perspectives in data science, which will be more inclusive and diverse. It highlights how “data science methods can inadvertently work to suppress those voices in the service of clarity, cleanliness, and control. Many of our received ideas about data science work against pluralistic meaning-making processes, and one goal of data feminism is to change that” (D’Ignazio and Klein 103).

The collection of data is of the utmost concern and how it is processed, analysed, and interpreted. While doing so, it requires cleanliness and order because the

information available is in a chaotic form, which needs to be put in a proper place. As stated by Barlas, data cleaning plays an important role in introducing biases and errors if not handled carefully (5). In this process of data cleaning and organization, certain elements are omitted or stripped away while others are overly included (Bollinger and Chandra). The data scientists who are responsible for cleaning, organizing, and disciplining the data will prefer a more organized one over some complex chaos. According to Catherine D'Ignazio and Lauren Klein, the process of cleaning and tidying can be destructive sometimes, which is like "chopping off the roots of a tree" which, according to them excludes the multiple voices (132)

Conventional data analysis requires technical expertise and quantitative methods as the only valid source of knowledge. To acknowledge and value diverse forms of expertise, that is, not only numerical but also based on lived experiences, helps in valuing these non-traditional approaches and gives recognition to multiple perspectives in the interpretation and use of data. Furthermore, pluralism, while recognizing multiple perspectives, paves the way to include the voices of marginalized and underrepresented communities, their needs, and experiences, and involves them in decision-making processes related to data collection and analysis in data practices. To understand the value of multiple voices, the authors assert;

The first step in activating the value of multiple perspectives is to acknowledge the partiality of your own. This means disclosing your project's methods, your decisions, and importantly for work that strives to address injustice your own positionalities. This is called reflexivity. (D'Ignazio and Klein 136)

Embracing requires acknowledging that data is not neutral, which is shaped and analyzed on the assumptions of those who collect it. By recognizing this control and who is influencing it, hidden biases and dominant narratives can be uncovered. This recognition and active questioning keep data analysis in check. June's journey started from a single objective truth that the Republic used to manipulate in the form of trials. A data collection system that is not neutral, instead uses data to solidify its control. She recognizes that truth is plural, emotional, and lived when she hacks into the data systems of the Republic, which unveils how they silenced multiple voices through results that decide their fate. She embraced Data feminism's "pluralism," which valued multiple ways of knowing. Whereas Emika also exposed the neutrality of NeuroLink, the hidden partial intent of Hideo behind his creation. He hacked into the minds of the

users to find his lost brother, an unethical act. This highlights how a person can shape data by leaving a lasting impression and influence during its interpretation and analysis.

### **1.3.6. Consider Context**

*Data Feminism* asserts that considering context is essential when examining and analyzing data. Understanding the social, cultural, and historical context is essential to give an accurate analysis, while failing to consider these can lead to biased outcomes. The importance of context regarding qualitative data, like storytelling, and others' perceptions and narratives, plays a crucial role in data collection. The authors took the example of cases of kidnapping young school girls in Nigeria, with news reports covering it all. But the actual kidnapping that was happening all over the year was much more than what was reported by the news and media. The events were supported with data visualization, which facilitated the storytelling process and shaped how the kidnapping data could be understood. Data visualization helps in keeping the context, thereby aiding in how the data is portrayed and what knowledge it holds. "Context matters" became the need because it asks questions regarding the conditions in which that contextual knowledge is created, thereby associating identities with it (D'Ignazio and Klein 152). Where a feminist approach is required to give inclusion to every context in which that data is collected. The authors highlighted the need for a feminist approach in statistical analysis or data visualization, where "context" is an important element (D'Ignazio and Klein 152). This context helps the data scientists in a better understanding of the "ethical obligations" as well as to identify how "power and privilege" play a crucial role in masking the truth (D'Ignazio and Klein 152).

The major issue is that most of the data or the information holds some of the background context, which has its history, and it is the work of data scientists, data journalists, data artists, designers, and researchers to preserve that context. It fully depends on their ability to creatively scrub and comb that data to give a meaningful analysis. That meaningful analysis, which is the final product, must not lose its actual context (D'Ignazio and Klein 159).

Warcross is a virtual reality environment that translates data into a visual world. Emika often sees data overlays information about people on her NeuroLink display, a way of visualizing data, but Hideo's algorithm used this visualization and neural data to influence behavior. While visualization makes information cleaner, it can also be used to control or deceive, depending on who wields it. Thus, to produce meaningful

analysis, it must not lose the original context.

### **1.3.7. Recognizing Effort**

In the domain of data science, there is a web of “invisible labor” that goes unnoticed and underappreciated (D’Ignazio and Klein 178). Data feminism made it recognizable and valued by highlighting that the entire data work requires significant expertise and effort. There is labor behind this data collection, analysis, cleaning, and interpretation. They are data scientists, data journalists, data engineers, statisticians, and other professionals; they are important in creating and generating insights from data. Therefore, recognizing and valuing multiple experiences and perspectives that produce valuable data is done by them. These people are important to get recognition because they are the unpaid labourers who are undervalued, mostly women, people of color, and marginalized communities (D’Ignazio and Klein 178). They are given less than a minimum wage for their work. Catherine D’Ignazio and Lauren Klein highlighted that companies such as Amazon and Google undervalued the work of data he work of data entry. Micro-work in the digital economy is a poorly visible work; its value is beyond measure. Many platforms depend on their work for detecting or labeling objects on images, transcribing invoices, classifying videos, sorting or ranking photographs, and recording utterances (Tubaro et al. 68). *Data Feminism* provides recognition of the work of labor, be it *emotional labor*, *domestic work*, and *care work* (D’Ignazio and Klein 201).

Emika works as a hacker to find bugs and hackers in the Warcross game, but her work remains unpaid when she hunts down a criminal for the police, and the police, in turn, take the credit and pay her nothing for the work. She put her life at stake to extract the useful information to get to those criminals. June’s effort and loyalty were also used to make her work in favor of the Republic. She gathered information about Day and other criminals through tracking and surveillance, but they manipulated her and abandoned her. Both of the organizations undervalued the skillful labor of these female characters.

## **1.4 Discussion**

Showalter’s four models of gynocritics, the genesis of feminist literary criticism, and the challenges faced by women readers and writers in a male-dominant literary cult provoke researchers to do more than she could talk about in her works. She rejected the biological inferiority that was associated with women’s identity

asserting, "Victorian physicians believed that women's physiological functions diverted about twenty percent of their creative energy from brain activity" (Showalter, "Feminist Criticism in the Wilderness" 187). She criticized the marginalization of women's writing to narrow categories and themes associated with female experiences. Her contribution has been instrumental in shaping feminist literary theory and criticism.

According to Showalter, women's language is characterized by women's experiences. Themes that are related to women's lived experiences and their engagement with the social and cultural contexts. She argued about the need for a women's language that challenges the male-dominated literary traditions, thereby introducing new perspectives to it. She asserts that "when a woman writes or speaks herself into existence, she is forced to speak in something like a foreign tongue, a language with which she may be personally uncomfortable" (Showalter, "Feminist Criticism in the Wilderness" 190). Using a female-centric discourse that recognizes female voices, lived experiences, subject matter, and involvement of women's unique perspectives enables women to provide a counter-argument to male literary discourse.

Moreover, she explored the relationship between women's writing and the female psyche, analyzing women's literary production and recognizing the diversity of female experiences and voices within the literature, identifying insights into her potential in creating and giving birth. She mentioned how women's creative process is linked to their sexual identities. She explained in the terms of Sigmund Freud how the process of writing or creation is connected with "urinating" (Showalter, "Feminist Criticism in the Wilderness" 194), which, according to him, is the work of Phallus.

Based on anthropological research, Shirley extrapolated that women's state exists in the "muted zone" (Ardner). Showalter quoted Shirley advocating for women's unheard voices contained in texts and critics' overlooking nature. Their cultural experiences and their analysis from a female literary lens challenge the androcentric systems. Culture incorporates women's language, their psyche, and their body concerning their environment.

Showalter has made a great contribution to feminist criticism and literary studies, thereby compartmentalizing it into phases by providing models through which analysis can be made. She provided a framework for the analysis of women's biology, linguistics, culture, and psyche during the 1970s-1980s alongside a clarion call that

Showalter could make for feminist criticism in the coming years. The work of D'Ignazio and Klein, *Data Feminism*, may be observed as a step ahead of feminist work, which stresses challenging the undermining policies of women in the data world, addressing the intersectional aspects of data feminism based on seven principles. They gave a detailed description, starting from giving a feminist outlook to how we address and look at data while considering women of color, marginalized people, non-binary, and oppressed people. They included every aspect from examining control to challenging control in which data can be included, keeping the benefits and losses of these people, starting from missing data to over-expressed data. They elaborated on the importance of every single contextual data. But there are certain aspects that D'Ignazio and Klein did not consider, the importance of the acquisition of a computer language that is women-centric in the world of data, women's virtual biological identity which is not taken into consideration, women's psyche that can be threatened through the digital aspects of data, and the cultural identities which are framed on the models of androcentric technologies. This is the place where the intersection of Showalter's models of gynocriticism and data feminism as a concept in literature takes place. Hence, as per age, we have to change the lenses to see women's conditions. How data feminism is required to analyze women's literature in terms of data, keeping in mind the cultural, psychoanalytical, linguistic, and biological fulfillment. We have to see the traces of these proposed models of studying today's women in the texts written by women. For example, Marie Lu's STEM fiction has eminent themes of gender violence, patriarchal tech society, and digital surveillance through "NeuroLink" and the totalitarian government. The novelist reflects on how digital literacy and education seem also a failure to control gender violence.

However, during the analysis of *Data Feminism*, it is observed that the title 'Data feminism' and its contents demand more than what the book states in the name of the seven principles of *Data Feminism*. Hence, a new model of data feminist literary criticism is required, which ensures a literary analysis of women's STEM/Sci-Fi writings/texts by raising equality and anti-racism issues to dismantle textual archetypes related to women's misrepresentation, safety, security, privacy, and discriminatory structurality in narrative topos. This model of data feminist literary criticism that I proposed will be the theoretical framework of the present thesis.

The model I have given in this chapter explains what precautionary steps

should be taken to stop the explicit information from processing, which is the form of data that can be reflected in the figure in the model given below (Rahaman and Bhat).

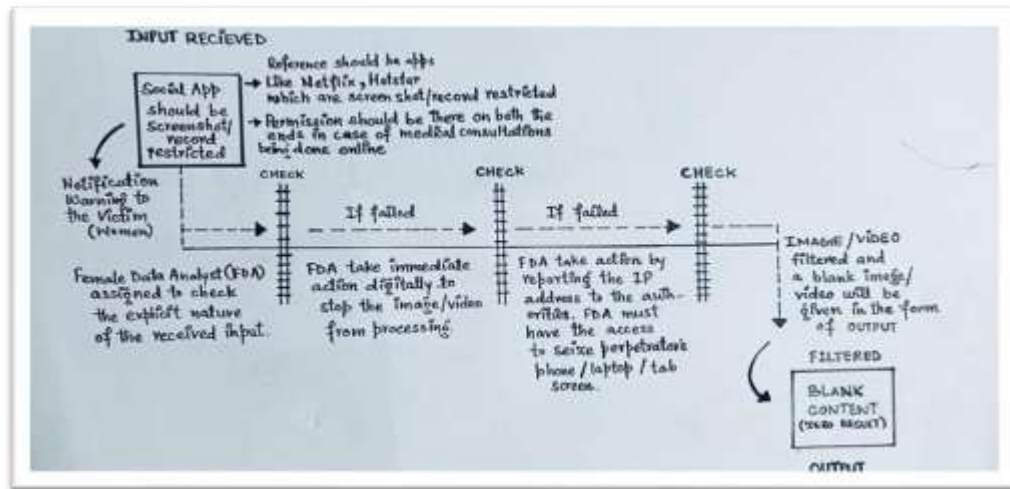


Fig. 2. Precautionary Steps Taken to Prevent the Transmission of Explicit Information

The first initiative is to assign a Female Data Analyst (FDA) who will constantly keep a check on the content that is being processed online. The model explains how data analysts can stop the transmission of harmful explicit data through social networking apps, which are a medium of communication.

By designing new apps and upgrading existing social networking apps that restrict taking screenshots and screen recording, if it does so, permission must be there from both mediums. When that permission gets granted, then only does it further the process. This way, a significant crime can be curbed on the first level. After that, an FDA should be assigned who can keep constant surveillance of what is being communicated online; if received, such content has the authority to stop that media from processing. She must be given access to get details of the IP address of the perpetrator and can report the crime to the legal authorities. The perpetrator's gadget he is using for performing the job, should be frozen for some time, and the FDA should start the media filtration process and remove the obscenity from it. Hence, the output received is free from profanity, nudity, and any harmful data that can be used against women.

## **Chapter 2**

### **The Formation of Marie Lu as a STEM Novelist: Life, Mind, and Works**

Marie Lu, a Chinese-American author, was born on July 11th, 1984. For her undergraduate studies, she divided her academic focus between biology and political science studies at the University of Southern California. She also completed an artistic internship at Disney Interactive Studios. She is well known and widely published for her dystopian/militarised *Legend* trilogy, *The Young Elites* series, *Warcross* duology, and her contribution to the DC Icons series, *Batman: Nightwalker*. Lu's first novel, *Legend*, was released on November 29th, 2011, and is the first novel in a young adult science fiction trilogy. The trilogy was intended, in part, as a reimaging of the struggle between Valjean and Inspector Javert in Victor Hugo's *Les Misérables*, but in a content appropriate for adolescents ("Marie Lu"). The trilogy was then completed with *Prodigy* (2012) and *Champion* (2013). In a departure from her trilogy and moving into fantasy, Lu published *The Young Elite* series on October 13th, 2015, then *The Rose Society*, and *The Midnight Star* on October 16th, 2016.

## **2.1 Her Notable Works**

### **2.1.1 Legend Series**

- *Legend* (November 29, 2011)
- *Prodigy* (January 8, 2013)
- *Champion* (November 5, 2013)
- *Life Before Legend* (Novella #0.5) (January 5, 2013)
- *Life After Legend* (Novella #3.5) (2017)
- *Life After Legend II* (Novella #3.6) (2018)
- *Rebel* (October 1, 2019)

### **2.1.2 The Young Elites series**

- *The Young Elites* (October 7, 2014)
- *The Rose Society* (October 13, 2015)
- *The Midnight Star* (October 16, 2016)

### **2.1.3 Warcross series**

- *Warcross* (September 12, 2017)
- *Wildcard* (September 18, 2018)

#### **2.1.4 Skyhunter series**

- *Skyhunter* (September 29, 2020)
- *Steelstriker* (September 28, 2021)

#### **2.1.5 Stars and Smoke series**

- *Stars and Smoke* (March 28, 2023)
- *Icon and Inferno* (June 11, 2024)

#### **2.1.6 DC Icons series**

- *Batman: Nightwalker* (DC Icons, Book 2) (January 2, 2018)

#### **2.1.7 Spirit Animals series**

- *The Evertree* (Spirit Animals, Book 7) (March 31, 2015)

#### **2.1.8 Short stories**

- "The Journey" in *A Tyranny of Petticoats*, edited by Jessica Spotswood (March 8, 2017)

Marie Lu paints a picture of a divided dystopian future in the Legend trilogy, which revolves around a fifteen-year-old protagonist, Day, a renowned criminal within the state of Republic that has grown out of the remains of the western United States. His life is characterized by a constant struggle for survival on the streets of a partially submerged Los Angeles, a city plagued by civil unrest and ruled by the military. June Iparis stands in contrast to Day's personality. She is a fifteen-year-old girl with extraordinary talent who is loyal to the state. She was raised in a privileged family with her brother Metias, who also contributed his devotion to the state, just like June. Her only surviving member, Metias, is murdered, mysteriously forcing June to track the murderer, Day, whom the Republic has falsely accused. When June finds out that the evidence connecting Day to her brother's death was fabricated and misleading, she begins to question the morality of the government she had held in such high regard. Day and June allies were united by their shared objective of exposing the Republic's corruption. The revelations at the climax drastically change June's perspective, which forces her to make difficult decisions. Despite their growing bond, June and Day decide to go their separate ways at the end of the novel. This illustrates a society that uses trickery and intimidation to maintain power and control. Marie Lu's *Legend* brilliantly examines the issues of justice, loyalty, and truth. It also offers character development

that is interwoven with fates and provides a deep analysis of the challenges of authority and rebellion.

The story framework is expanded upon in *Prodigy* (2013). Day and June flee the Republic's stronghold and become fugitives in Las Vegas. They joined hands with the Patriots, a revolutionary group that operated between the Republic and the Colonies. The country is plunged into chaos when Elector Primo dies and is succeeded by his son. Razor, the commander of the Patriots, tricks June into being taken by Republic troops to win over the new Elector and tricks him with a false assassination plot. June realised the truth about new Elector who is not like his father. June and Day stop the Patriots' plot before Razor can carry out his destructive schemes. In *Champion*, the third part of the *Legend* trilogy, they sacrificed a great deal for the Republic and one another. The dynamics change when June is brought back into the Republic's elite circles as Princeps-Elect, and Day is assigned to a senior military role as the nation approaches the beginning of a new age. Peace is disrupted by a deadly disease outbreak in the Colonies, threatening to ignite war throughout the Republic's borders, and their paths unexpectedly cross again. June has an important piece of knowledge that is essential to the country's defence, whereas Day, who is already harmed by earlier genetic experiments, must sacrifice everything he values, including his health. As the Republic faced both external and internal dangers, June and Day held the responsibility to negotiate political intrigue, military strategy, and personal sacrifice. Their relationship's complexities are put to the test as they deal with the moral and ethical consequences of their choices in a corrupt and power-hungry society. The future environment of *Rebel* provides a backdrop for examining issues like identity, security, surveillance, selflessness, and the long-lasting effects of past deeds. The narrative examines the complex relationship between human and social dynamics, particularly the interplay between authority and resistance and revolt and governance in a shattered social structure. The outbreak of the new virus disturbed the peace of the environment and discontent against the Republic of America, creating an atmosphere of dissatisfaction against the Republic of America. Day's brother, Eden, weighed down by family traditions, tries to forge his way, entangling himself into a scheme and trouble that could spark revolutionary passions again. Meanwhile, Day faces the declining impact of his former position, which served as a hope to the masses, along with his deteriorating health. Both Day's and June's lives are thrown back into chaos,

navigating an unpredictable environment as a result of conflict. The climax offers a nuanced examination of the difficulties involved in pursuing personal autonomy in the face of social change.

Marie Lu has also written *The Young Elites*, the first book in the trilogy. It presents readers with a planet that is devastated by a fatal blood sickness, in which survivors are endowed with superhuman powers known as the Young Elites. Adelina Amouteru is one of them. She survived the illness and learnt to control illusions. After being persecuted by both her violent father and the ruling Inquisition Axis, Adelina seeks safety with the Young Elites and sets out on a treacherous quest to topple the repressive government. With the exploration of her powers, Adelina struggles with her inner anguish and the desire for vengeance, which lead to the themes of betrayal, power relations, and the pursuit of reconciliation. In *The Rose Society*, the subsequent installment of *The Young Elites*, Adelina accepts her darker tendencies and creates the Rose society to take revenge on her enemies. Motivated by her thirst for power, she followed a treacherous path where she encountered ethical challenges and conflicts with the Daggers, an opposition group. The story explores the complicated relationship of moral issues with her reckless ambition that led her descent into darkness. Adelina became Kenettra's queen at the end of the trilogy. Despite becoming a powerful ruler, her reign was tainted by suspicion and internal conflict. To make attempts to maintain control and protect her kingdom from the outside threats, she fights her inner demons and also faces the consequences of her actions. Through themes of redemption, forgiveness, and the strength of love, this novel offers an emotional analysis of Adelina's journey toward self-realization and reconciliation in immense tragedy.

The *Warcross* series by Marie Lu is also a young adult fiction that is situated in a futuristic world where virtual reality (VR) is blended with the daily existence of individuals. It came in two installments, *Warcross* and *Wildcard*. *Warcross*, starts with the introduction of the female protagonist Emika Chen, who is a bounty hunter and earns her living by catching the criminals who gamble in the gaming world. This skill of hers landed her into the inaugural ceremony of the game, *Warcross*, a virtual reality phenomenon created by Hideo Tanaka. This intrusion makes her noticeable to Hideo, and he extends an opportunity to Emika to trace a notorious hacker, Zero, who has constantly been posing a threat to the security of the *Warcross* game. As the narrative progresses, Emika delves deeper into the realm of *Warcross* only to find deceit and

betrayal. She also developed feelings for the creator of the game. The position risked her security and made her vulnerable. A constant threat to her security forced Hideo to withdraw her from the position. In *Wildcard*, Emika continues her quest to hunt Zero with growing feelings for Hideo but later unfolds such revelations about his past that put her feelings in jeopardy. His true intentions and motivations came to light, and she was left to make difficult choices to protect herself and her loved ones. She unfolded the truth behind the game where Hideo's intention to create the game was not for mere entertainment but a purpose to link it with the minds of the users. In that way, he can analyse every single thought they have in their mind. This discovery made Emika question her relationship with him, and it also targets the ethical concerns surrounding the technology. Marie Lu, with her dynamic characterization and an advanced virtual environment, captivated readers and highlighted the much-needed ethical concerns within the technology.

## **2.2 Marie Lu as a STEM Novelist**

The term "science fiction" has been used as a marketing category since the 1920s, with Hugo Gernsback's pulp short story magazines being the first to use it (Attebery; Trushell). Theorists like Suvin view science fiction as equivalent to any other "major" literary genre, excluding the American pulp tradition (380). Writer Samuel Delany views SF from the reader's perspective and literary analysis, arguing that it is focused on the object rather than the human subject (Kincaid). Critic Adam Roberts argues that SF is a rational/materialistic framing of the world (Roberts; Finnigan). Gernsback grounded science fiction in earlier semi-canonical works, defining it as a "charming romance mixed with scientific fact and prophetic vision" (Putt; Resetarits). Mark Bould and Sherryl Vint analyze the Verne, Wells, and Poe stories that Gernsback reprinted to understand their similarities with his pulp stories (Westfahl).

Darko Suvin's work on science fiction (SF) focuses on its role as "the literature of cognitive estrangement" (372). Estrangement allows one to "recognize the subject" while making it seem "unfamiliar," leading to Suvin's full definition of science fiction (SF) (Suvin 374). This approach emphasizes the dynamic transformation of the author's environment and the representation of the subject science fiction (SF) is "*... a literary genre whose necessary and sufficient conditions are the presence and interaction of estrangement and cognition, and whose main formal device is an imaginative framework alternative to the author's empirical environment*" (Suvin 375). SF

examines the steps leading to the crisis, its effects, and its impact on humanity. Mary Shelley's *Frankenstein* (1818) blends social criticism and emergent ideas in science. Victor Frankenstein is an embodiment of knowledge without consideration that holds negative implications by providing a contemporary relevance to the issues in Biotechnology (Olivier). Shelley's novel is an example of serious literature that uses exploration, discovery, and conflict to contemplate the human condition in a context as well as in a broader sense.

Science and technology in the 20th and 21st centuries are colonial and man-centric powers in the contemporary world, perceived as destabilising technological foreign threats. These forces affect cognition and estrangement in science fiction, making them easy to misrecognize or misapprehend. Marie Lu's narrative of science and technology in science fiction holds significant implications for the genre. It could explore travel to other star systems, virtual systems, artificial intelligence, and advanced technology beyond human control. The novel's publication provides insights into the status of science and technology, as well as the liberal social values often associated with these fields. STEM narratives serve two main purposes: to solve problems by highlighting repression and exploitation in societies without these issues, and to predict human developments by extrapolating from current technology. This genre is an adventure story set in the far future or on other planets, expressing human hopes for life on other planets. It can serve as a mask for political satire and a platform for contemplation of life's secrets and spiritual concerns, showcasing the potential of this genre in storytelling. She has established herself as an important figure in young adult literature, especially in stories that center around STEM. The *Warcross* series is her first foray into science fiction and is notable for being listed among the "Best STEM Books 2018" list ("BEST STEM BOOKS") that reflects Lu's dedication to examining contemporary concerns from the perspective of science, technology, engineering, and mathematics (Hansen). The *Warcross* series immerses the readers in virtual reality and the gaming industry, where the novel fulfills the concept of "cognitive estrangement" (Suvín 372). Marie Lu has uniquely explored the intersection of technology and gaming, which seems familiar, and her assumptions about the world provide an unfamiliar and strange condition of society. The *Warcross* series portrays Emika Chen as a skilled hacker and gamer who has expertise in the virtual world, which provides a distinctive examination of the relationship between technology and gaming, which can

also be pursued as a career in the developing gaming industry. The setting of the *Legend* series, The Republic of America, is also depicted as a highly developed technological nation that is characterised by strict social regulations, drones, and social hierarchy. The constantly evolving nature of technology is reflected through Eden Wing, who is deeply fascinated with technological invention.

## **2.3 Themes in Marie Lu's Novels**

### **2.3.1 Different racial backgrounds**

This thesis is based on studying five select novels. Marie Lu's selection of female characters includes diversity, with different racial and ethnic backgrounds. Her female characters are seen acquiring leadership roles. They are seen as rebels against the suppressing forces. She also targets the societal threats where her female characters are seen to critique society. In her novel *Legend*, June, who belongs to an Asian background, is a member of a police state, "the Republic". Despite being born into one of the wealthiest families, she still chooses to rebel against the system, which was acting as a suppressing force against minorities. She was assured of a position of leadership in the state because of her family's financial status. Despite all the luxuries she had, she faced a lot of difficulties, leading her to rebel against the government. Essentially, although socialized into the societal ways of thinking, these characters work to uncover the intricacies of their respective governments, form new opinions and ideas about their worlds, and rebel against their socialization with the help of new and old friends (Toliver) Emika Chen, the central character in Marie Lu's *Warcross* series, is of Chinese American heritage and undergoes a significant evolution throughout the narrative. She emerges as a prominent leader and a symbol of opposition against dominant forces within her society. Initially depicted as a proficient hacker and bounty hunter, Emika contends with financial hardships in a dystopian setting dominated by the formidable corporation, Warcross, led by Hideo Tanaka. Despite facing marginalization, Emika exhibits notable intellectual prowess, resourcefulness, and tenacity, qualities that eventually elevate her to a position of leadership.

As the series unfolds, Emika undergoes a transformation from an individual acting in opposition to societal injustices to assuming a central role in the struggle against them. She challenges the authority wielded by the corporate elite and scrutinizes the ethical dimensions of their endeavors, particularly concerning the utilization of technology for purposes of manipulation and control. Emika's resistance to oppressive structures

transcends mere reaction, as she actively endeavors to deconstruct systems of subjugation and advocate for enhanced autonomy and liberty, both for herself and others.

Emika's approach serves as a role model for the empowerment of female characters within Marie Lu's narrative framework. Negotiating dreadful challenges and confronting adversaries, she ultimately ascends to a position of significance and leadership. Through her actions, Emika becomes a beacon, inspiring others to align with her cause and effect transformative shifts within her society, epitomizing the ethos of rebellion against repressive forces that characterizes Lu's portrayal of female protagonists.

### **2.3.2 Dystopia and the Futuristic World**

According to the Merriam-Webster online dictionary, Dystopia is “an imagined world or society in which people lead wretched, dehumanized, fearful lives.” Marie Lu’s *Legend* trilogy is set in a dystopian, distant futuristic world that involves the story of the main characters June Iparis and Daniel Altan Wing. June was born and brought up in a wealthy family, but she lost her parents at a very young age. From childhood, she was trained to secure a position among the country’s top soldiers. She lives with her brother Metias Iparis in the Republic of America, which occupies the modern-day United States of America’s West Coast. The colonies occupied the east coast of America and were at war with the Republic.

She passed her trial by securing 1500/1500 at the age of ten. At the age of twelve, she graduated high school and went to Drake University and remained loyal to the country. Her life was shattered with the news of the murder of her older brother, and Day was the prime suspect in his murder. She started the hunt to catch the murderer of her brother. Meanwhile, she uncovered the bitter truths about her beloved country. A dystopian America is the backdrop for *Legend’s* post-apocalyptic story (Latiffa, 18). Marie Lu’s Young Adult dystopian fiction tells stories set in a post-apocalyptic dystopian society, which provides a platform for testing and illustrating moral principles that might be viewed as unusual in the real world. Whatever values were present and showed at the beginning of the novel were disrupted later on, which confirms the prevalence of the dehumanized terror among the people in the novel. The dystopian elements that are present in the *Legend* series are:

- **Dictatorship:** The Republic government in *Legend* exercised strict control over

its citizens with complete surveillance, a mighty military, and routine medical tests.

- **Trials:** Every child is bound to undergo a trial at the age of ten; these tests determine their future. The higher the score, the more will be future opportunities for education and inclusion in the military, while those who fail will be consigned to a lifetime of labor. Through these trials, the government controls the people as well as children.
- **Social inequality and social stratification:** The society in the Republic is divided into higher elites and lower impoverished classes. The main character, June, lives a luxurious life while Day, who is also a main character in the novel, lives in a poor, neglected area. Also, this social stratification is perpetuated through the government's policies and practices.
- **Executions and fear:** The government used executions to instill fear and obedience in the public, thereby conveying a strong message to discourage rebellion. The planned execution of Day served as a public display of the government's control and power over those who defy their rules and regulations and are deemed criminals who must be punished to maintain order.
- **Unethical medical procedures:** The government of the Republic engaged in unethical medical experiments on individuals from the lower socioeconomic class. Day's brother, a member of this class, was subjected to these non-consensual procedures as well.

#### **2.4 Critics' Views on Marie Lu**

Egan called Marie Lu the “DOYENNE OF DYSTOPIA”, inspired by a political convention in recent times. She shows concern about marginalized people. In 2016, watching the Democratic National Convention, the young adult author was moved by Khizr Khan's speech about his son, Humayun, who died saving fellow soldiers in Iraq. She says, “I could not stop thinking about how many young people from marginalized walks of life go off to war to fight for us, to protect us, then come back to a country that doesn't give them the respect they deserve. That idea haunted me and it haunts me still.”

Lu, the mastermind behind the wildly popular *Legend* series, poured that frustrated energy into her new novel, “Skyhunter,” which appeared at No. 8 on last

week's young adult hardcover list. Set 5,000 years in the future in what she describes as a "regressed society," the story follows a refugee who defends her country against an evil federation that has taken over the rest of the world. The book strikes a chord with its audience. On Amazon, a reviewer wrote, "'Skyhunter' subtly (and sometimes not quite so) delves into complex themes, including the refugee experience, corruption in government, nationalism, and the caste system." On Goodreads, another enthusiast put it like this: "I wish Lu wrote my textbooks because I can't seem to get enough of her books."

*Skyhunter* is Lu's second-best-selling novel in 2020; the first was *The Kingdom of Back*, which came out in March just as the pandemic started to gather steam. Still, amid all the uncertainty, the Los Angeles-based author continued to rise before dawn to squeeze in exercise or writing before her toddler woke up. ("I would rather write than exercise. Always.") Lu says the biggest immediate change in her life has been a sense of exhaustion and "trying to find creativity when we're not allowed to partake in each other." She explains, "I'm inspired by places I see and people I talk to — friends, family, strangers. It was strange to be physically cut off from people. I feel that difference when I sit down to write."

Lu also believes the change can be brought about by the young people in society, saying her fans keep her focused on her work, especially the ones who are "out in the streets marching for these huge issues like climate change and gun control." She says, "Teenagers shouldn't have to take on these things. They should be worrying about prom, grades, and crushes. But young people have always been harbingers of change, and if we're going to come out of this, it's because of them. I'm so grateful." (Egan)

Kathy Ceceri, writing for *Wired*, draws parallels between Marie Lu's *Legend* and a fusion of popular young adult fiction titles. She described it as "It's one part *Hunger Games*, one part *Little Brother*, and a bit of *City of Ember* and *Truancy* — with a dash of *Les Miz*". Lu's constructed fictional realm, while comparably less complex than that of "Hunger Games," exhibits a scrupulous dedication to detail, thereby yielding a narrative that is both persuasive and internally consistent. Those readers versed in contemporary societal discourse will find resonance in the challenges encountered by Lu's characters, fostering a sense of empathy. Moreover, her depiction of proficient female leads diverges from conventional narrative archetypes, presenting a novel reinterpretation of the traditional damsel in distress trope.

Reflecting both modern concerns and ethical issues, Marie Lu's collection of work demonstrates a clear interaction between science fiction, dystopian literature, and STEM fiction. Her works are about resilience and rebellion that challenge the power status. Her contribution to literature is not confined to storytelling but also a medium to critically think about technology, power, discrimination, and corruption in society. Through her novels, she also emphasised that technology is not just a tool for comfort but also holds the power to destroy and threaten the lives of people. Her characters, such as Emika Chen, who challenged the dark side of technology, and June Iparis, who rebelled against the unjust system, later uncovered the true face of the Republic. In her novels, she constructs a world that challenges traditional gender roles and also acts as agents to change the oppressive regimes with the highlighting themes of surveillance, rebellion, discrimination, and privacy invasion. Her works provide a prism to examine society, reminding us that change starts with those who dare to challenge the biases. This blend of science fiction with technology cemented her status as a leading figure in speculative fiction.

## **Chapter 3**

# **Portrayal of Discrimination and Misrepresentation**

Discrimination and misrepresentation of women have been increasingly common in the digital world and other domains in recent years. These factors contribute to the subjugation of women, gender-based discrimination, the lack of proportional female representation, the existence of power imbalances, biases in algorithms concerning gender, misrepresentation of women in media, concerns over digital privacy, and the dissemination of nonconsensual pornography, among other related issues. Workplace discrimination in masculine occupations occurs when men are preferred over women, it takes the form of a preference for men. This leads to lowering female employment in masculine occupations (Zellner 157). Discrimination can be conceptualized as a manifestation of racism and white supremacy, which can be traced back to the complex interplay of privilege and oppression within societal structures. Inaccurate or prejudiced data has the potential to result in significant discriminatory results, particularly concerning traits such as ethnicity and gender.

In *Data Feminism*, the word ‘discrimination’ has occurred 34 times, referring to its causes: Racism, Gender Issues, Color, Refugees, and Diasporic reasons. Discrimination is, hence, “The form of racism and white supremacy” (D’Ignazio and Klein). Discrimination describes “the intersecting forces of privilege and oppression at work in a given society” (D’Ignazio and Klein). Discrimination can be caused by various factors which can be because of data, data that are inaccurate, biased, or unrepresentative resulting in heavily discriminatory outcomes based on an individual’s ethnicity, sex, or other attributes (Kim) and how these factors converge with each other to which Kimberle Crenshaw termed as the “intersectionality” which was coined in the late 1980s. The concept of “Intersectionality” examines how “race, gender, and other identity categories are most often treated in mainstream liberal discourse as vestiges of bias or domination” (Crenshaw, ‘Mapping the Margins: Intersectionality, Identity Politics, and Violence against Women of Color’), which are the frameworks in which power executes and excludes the marginalized.

Key to the idea of intersectionality is that it does not only describe the intersecting aspects of any particular person’s identity (or *positionalities*, as they are sometimes termed). It also describes the intersecting forces of privilege and oppression at work in a given society. (D’Ignazio and Klein 7-8)

In considering the discrimination experienced by the marginalized, Crenshaw read about anti-discrimination, *DeGraffenreid v. General Motors*, in law school

(Crenshaw et al.). A Black working mother had been denied a job at a local General Motors factory. Following being rejected for employment, she sued General Motors for discrimination. General Motors had a history of employing Black people, yet at the same time discriminated based on race and gender. They were providing industrial roles to black men, white men, and white women. The judge dismissed the case based on the reasons that the business could not have been discriminating based on race or gender because it did recruit Black people and women. Following the case, the idea of intersectionality holds significance because it involves the intersecting factors that involve the multiple interests of the marginalized. It constitutes the individual's identity and the fact that it is distinct, genuine, and needs to be named (D'Ignazio and Klein).

The pursuit of power and privilege leads to the imposition of oppression and marginalization, which can be listed as the effects and causes of discrimination. Oppression regarding race, socioeconomic status, health, and gender (Williams). D'Ignazio and Klein argue that power and privilege intertwine with oppression, thereby magnifying its impact: “... the forces of power and privilege on the one hand and oppression on the other mesh together in ways that multiply their effects” (D'Ignazio & Klein). However, the consequences of privilege and oppression are not uniform among individuals and communities. They manifest prominently and inescapably in the daily experiences of certain groups, especially women, people of color, individuals identifying as queer, and immigrants (D'Ignazio & Klein, 2020). Identifying oppression and its related elements is a challenging task, specifically when one gets to benefit from it, which is termed as “Privilege Hazard” in the book *Data Feminism*. This is the place where the role of data becomes crucial.

When data teams are primarily composed of people from dominant groups, those perspectives come to exert outsized influence on the decisions being made—to the exclusion of other identities and perspectives. This is not usually intentional; it comes from the ignorance of being on top. We describe this deficiency as a privilege hazard (D'Ignazio & Klein, 28)

Michelle Darden is a real-life example whose experiences are discussed in the book *Data Feminism*. She models the principles of what the authors refer to as “data feminism”, particularly regarding the intersection of data and power dynamics. The word revolves around understanding data and its applications, considering both their

potential and limitations. The concept of “data feminism” lies in shedding light on the inequalities in the conventional practices in data science as well as actively working towards a just future by using it as a tool to reshape the existing distribution in society.

### **3.1 Algorithmic Discrimination**

Oppression is a systematic form of injustice, “a complex social phenomenon, and is maintained by a variety of different people through a variety of different mechanisms, ranging from institutional rules, workplace codes, and laws to stereotypes, customs, and attitudes” (Taylor 521). This discrimination is mostly done against women and gender minorities, because of their social status and abilities, resulting in oppression:

*Oppression* involves the systematic mistreatment of certain groups of people by other groups. It happens when power is not distributed equally—when one group controls the institutions of law, education, and culture, and uses its power to systematically exclude other groups while giving its own group unfair advantages (or simply maintaining the status quo). (D’Ignazio and Klein 8)

Gender oppression, on the other hand, is characterized by “sexism, cissexism, and patriarchy that is evident in everything from political representation to the wage gap to who speaks more often (or more loudly) in a meeting” (D’Ignazio and Klein 8). Algorithmic discrimination is a kind of algorithmic bias that is based on ethnicity, sex, or other attributes (Jain and Menon). These prejudices are made by AI systems because of biased data, biased algorithms, or biased design (Moussawi et al.). If the training data is skewed towards a particular group or viewpoint, the AI system may amplify those biases, leading to discriminatory results. This concern over machines’ decision-making has exploded in recent years. Therefore, utilizing computer algorithms to make these decisions may spread prejudices or have other unfavorable effects. Some of the results were linked with increased transparency, while others yielded more racially discriminatory results:

The privilege hazard occurs at the level of the individual—in the interpersonal domain of the matrix of domination—but it is much more harmful in aggregate because it reaches the hegemonic, disciplinary and structural domains as well. So it matters deeply that data science and artificial intelligence are dominated by elite white men because it means there is a collective privilege hazard so great that it would be a profound surprise if they could actually identify instances of

bias prior to unleashing them onto the world (D'Ignazio and Klein 29)

However, there are certain software that promote algorithmic discrimination, according to ProPublica, an independent and nonprofit news organization committed to producing impactful investigative journalism (ProPublica), revealed that a widely utilized software used to predict potential criminals, in the criminal justice systems nationwide, called COMPAS, was exhibiting racial bias against Black individuals in predicting future criminal behavior (Angwin et al.).

Kate Crawford, a scholar in social science, has posited a significant concern regarding artificial intelligence systems. She suggests that the major peril isn't the potential for these systems to surpass human intelligence but rather the risk that they may embed gender bias, racial discrimination into the foundational digital structures of our societies (Crawford 5). Bias in algorithms is an inadequate concept that bases ideas on fairness. Virginia Eubanks' work, *Automating Inequality*, highlighted that the early big data systems were constructed on a specific understanding of discrimination (Eubanks). This Algorithmic bias has led to the replacement of social workers with feelings of empathy and listening skills with automated systems, thereby neglecting particular situations in terms of welfare administration, making the algorithmic discrimination worse (Gangadharan et al.). Furthermore, data science is being used to undermine the disadvantaged, with which it can promote algorithmic oppression, thereby reinforcing racial and gender biases. There are certain instances where misuse of power, widespread racism, and decisions without accountability are common. Meredith Whittaker, who founded Google's Open Research Group, stated that the tech industry's usual way of doing business is not serving us in a good manner. "Google paying \$90M to Andy Rubin is one example among thousands, which speak to a company where abuse of power, systemic racism, and unaccountable decision making are the norm. It's clear that we need real structural change, not adjustments to the status quo"(Wakabayashi and Benner).

One of the problems that are there in the field of AI and technology is the use of facial recognition software that discriminates on the basis of skin tone. Facial recognition software operates on a piece of primary information to discover and identify faces. For example, Joy Buolamwini, a student at MIT, was working on a project using facial analysis software:

Software couldn't "see" Buolamwini's dark-skinned face (where "seeing" means that it detected a face in the image, like when a phone camera draws a square around a person's face in the frame). It had no problem seeing her lighter-skinned collaborators. She tried drawing a face on her hand and putting it in front of the camera; it detected that. Finally, Buolamwini put on a white mask, essentially going in "whiteface"... The system detected the mask's facial features perfectly (D'Ignazio and Klein 29)

The software offered discriminatory results, probably because the algorithm primarily consisted of lighter-skinned individuals, further disadvantaging black women. It led to the creation of a system that struggled when confronted with faces of darker complexions, particularly black women.

Data for Black Lives (D4BL) is an association devoted to using data science to produce changes in the lives of people of color. This association was started by Yeshimabeit Milner, who is a member of 'Black Lives Matter' ("About Black Lives Matter"). The focus of the group is:

D4BL is "a network [of] over 4,000 scientists and activists working to harness the power of data and technology to make real change in the lives of Black people." D4BL organizes annual conferences, runs online communities, and helps connect people in its network. The group pursues two simultaneous strategies: pushing back against the harmful impacts of data as they are currently deployed, and creating new spaces for organizers, data scientists, and engineers to come together to generate meaningful research questions. The group's emphasis on abolition and liberation, rather than a generic form of social good, leads it to design projects that actively work to overturn the data-driven discrimination experienced in Black communities. (D'Ignazio and Klein 206)

Discrimination is viewed as subordination that occurs in terms of a particular characteristic, where there is the exclusion of marginalized people from the concepts of racial and sexual discrimination by focusing on the experiences of the group of privileged members. Whereas in cases of race discrimination, the focus is on sex or class-privileged Blacks (Crenshaw, 'Demarginalizing the Intersection of Race and Sex: A Black Feminist Critique of Antidiscrimination Doctrine, Feminist Theory and Antiracist Politics').

### **3.2 Gender Discrimination on Digital Platforms**

Gender discrimination on digital platforms refers to sexism, prejudice, bias, inequality, intolerance, and prejudice experienced by an individual on digital platforms based on their gender. Technology plays a role in it: “Some scholars have argued that technology is 'automating inequality.' They point to the insidious new ways in which historically disadvantaged groups may be re-confined to subordination through high-tech tools and search engines” (Barzilay 185-186). Online abuse and threats, stereotyping reinforcement, unequal representation, algorithmic prejudice and discrimination, cyberbullying and harassment, discrimination in employment prospects, online sexism, and privacy intrusions are all part of it.

Women are underrepresented in the areas of data science, software engineering, and artificial intelligence, which manifests through bias in promotion, stereotyping, inequality in terms of pay, lack of representation, and a hostile work environment. While addressing the issues women face, platforms like Google and Facebook are also allowing them to promote this bias against women. Noam Scheiber’s “Facebook Accused of Allowing Bias Against Women in Job Ads” discloses the reflection of gender discrimination in social media, where Facebook used its saved data to promote gender bias. It showed job opportunity ads only to men, and many women complained about this discriminatory behavior of Facebook.

It is important to acknowledge the elephant in the server room: the demographics of data science (and related occupations like software engineering and artificial intelligence research) do not represent the population as a whole. According to the most recent data from the US Bureau of Labor Statistics, released in 2018, only 26 percent of those in “computer and mathematical occupations” are women. And across all of those women, only 12 percent are Black or Latinx women, even though Black and Latinx women make up 22.5 percent of the US population. A report by the research group AI Now about the diversity crisis in artificial intelligence notes that women comprise only 15 percent of AI research staff at Facebook and 10 percent at Google. These numbers are probably not a surprise. The more surprising thing is that those numbers are getting worse, not better. (D’Ignazio and Klein 26-28)

“Is Facebook discriminating against women? Or merely letting its customers use Facebook data to discriminate? The news article about the suit says that “Facebook

said that it was still reviewing the ads but that it generally did not take down job ads that exclude a gender” (D’Ignazio and Klein 251). The platforms, like Facebook and Google, promote bias, and the issue at hand is the employment practices of major firms, which appear to have taken gender and race into consideration. This is evident from the available data on the representation of women in sectors such as data science, computer science, artificial intelligence, and specifically within the context of Google. Moreover, the security of data on these platforms remains compromised even under the supervision of a data scientist, as these professionals themselves can inadvertently contribute to the perpetuation of discriminatory practices. In a particular case, “computer scientists scraped YouTube videos by transgender users and used their images (without consent) to try to train an algorithm to recognize transgender faces. People found their images included in scientific research papers about the technology when they had never granted permission” (D’Ignazio and Klein 251). The act of stealing and unethical behavior described here poses a potential threat to transgender individuals and can lead to issues of cissexism: “applies to discrimination against transgender people” (D’Ignazio and Klein 238). The harassment, neglectful behavior, and marginalization of those who identify as transgender or non-binary in online places is a significant problem that has been more prevalent in recent years due to online discrimination against transgender people.

### **3.3 Misrepresentation**

Misrepresentation is an act of fabricating a false portrayal of a subject matter, driven by the deliberate motive to beguile or lead astray. It deviates from truthfulness, thereby presenting a partial representation that can be correlated with social stratification, ethnic background, sexual orientation, gender identity, and other such factors. Misrepresentation is the act of presenting inaccurate information with the intent to deceive or mislead. As a result, it distorts the truth and provides a biased portrayal, which may be related to class, ethnicity, sex, or gender, among other factors.

Furthermore, the phenomenon of racial misrepresentation occurs when there is an association between whiteness and victimization, while blackness is associated with criminality. The marginalization of African American women's literary narratives due to racial bias has resulted in their marginalization by literary academics and educators. This neglect can be attributed, in part, to the uncertainty surrounding the perceived validity of these narratives (Humez).

One of the narratives that correlates the racial and gender issues is Sojourner Truth, a female individual who became renowned for her active opposition to the institution of slavery. Truth's speech entitled "Ain't I a Woman", in 1851, has become an iconic feminist text, particularly in intersectional discourse (Smiet). The majority of people know Truth's popular version, but they don't know that it's different from her original speech. Frances Gage, a white abolitionist, published an inaccurate version of her original speech and titled it "Ain't I a Woman" (Sherman). She not only altered all of Sojourner's words but also chose to portray her speaking with a stereotypical accent. Gage acknowledged that her revised version had altered her speech, but she felt justified and believed that her version was more powerful and more digestible to the American public than Sojourner's original version (Podell). Truth's challenges the notions of intersectional feminist activism and how white women control the narrative, even when it misrepresents ideas and intentions.

### **3.3 Discrimination and Misrepresentation in *Warcross* and *Legend* series**

Marie Lu's *Warcross*, a STEM fiction and the first book in the *Warcross* series, with *Wildcard* (2018) as the second. *Warcross* was published in the year 2017 and has a fundamental theme of virtual reality that brings challenges and discrimination. The novel is set in a near-future world where there is an obsession with the virtual reality game *Warcross*.

New York City is home to bounty hunter Emika Chen, who is 18 years old and currently works in the city. She helps the police find smaller criminals in exchange for a reward, which is how she makes her living. She and her close friend Keira share a spacious flat with two bedrooms. Her father passed away when she was only 12 years old, leaving her in a tough circumstance in which she needed to work to make a living. She had to work as a waitress. Her life is uneventful until the point where she accidentally causes a bug in the middle of the *Warcross* tournament. This is a game in which the vast majority of people throughout the world are invested. The game has never been hacked before, except for Zero, due to the codes and protection shields it contains. After seeing this, the world, as well as the person who developed the game, was shocked. Hideo Tanaka, the creator of the game, employed her and took care of all of her financial obligations. She goes to Tokyo to see the creator there, and while she is there, she develops some acquaintances as well as adversaries. When she finally

reached Tokyo, Hideo broke the news to her that the game, Warcross, has been targeted by an anonymous hacker. This hacker goes by the handle Zero, and he or she is a mystery. He provides her with a position in which she may secretly observe the other contestants to locate Zero without arousing anyone's suspicion. Emika joins the Phoenix Riders after being classified as a Wardraft participant. She has witnessed some odd behavior involving a player named DJ Ren, who appears to have ties to the criminal underworld because he has been overheard putting modest bets and exchanging words with a mysterious man named Zero. Zero abruptly appeared in front of her while she was on the hunt for DJ Ren. He made the offer for her to work for him, but she declined it. He warned her of potential consequences, which started with her photos with Zero exposed by the press and her acquaintances. Her comrades and friends, Asher, Hammie, and Roshan, were all shaken up by the actions that Emika had taken. Hideo visited her in the hospital and brought up the expiration of her contract, expressing concern that it could place her in a precarious position in the finals. However, Tremaine, a member of the opposing side, divulged a video that revealed a private chat between DJ Ren and Zero. In the video, DJ Ren and Zero discuss the havoc they want to make in the Warcross final tournament by installing power-ups that have been hacked. Even after her relationship with Hideo came to an end, she decided to step in and aid her friends in winning the game by purchasing power-ups for them that they could use without coming into contact with the flawed power-ups. Her friends became victorious in the competition with Emika's assistance. Once more, Zero makes contact with Emika and brings up Hideo's plan, which he is going to carry out in secret without informing anyone else. She is taken aback when she learns what Zero has said, but she decides to meet with Hideo, where she eventually gets a peek at his actual goals. He discussed the NeuroLink contact lenses, which are an innovative replacement for eyeglasses. It will have an interaction with the user's brain, which will allow it to govern criminal activity.

Disheartened at the discovery of Hideo's plan. He created NeuroLink for his own gain to find his lost brother because he was in a powerful position with intellectual creativity. The creation of NeuroLink is a "Privilege Hazard" where Hideo decides the fate of the people linked with those virtual glasses. Hideo Tanaka created NeuroLink to make the virtual reality environment so real that it becomes impossible to distinguish.

So Hideo Tanaka thought of an easier solution. In order to create a flawlessly real world, you don't need to draw the most detailed, most realistic 3-D scene

ever.

You just need to *fool the audience into thinking it's real*.

And guess what can do that the best? Your own brain. (Lu, *Warcross* 30-31)

Emika Chen uncovered his intention; she narrates “For a while now, I’ve been working on developing the perfect artificial intelligence, an algorithm that, when implemented through the NeuroLink, can fix our flaws better than any human police force” (Lu, *Warcross* 338). This is a privilege hazard where the order goes into the hands of the powerful ones. According to Catherine D’Ignazio and Klein, “data science methods can inadvertently work to suppress those voices in the service of clarity, cleanliness and control” (D’Ignazio and Klein 130). It relates to the implementation of NeuroLink to create a “flawlessly” different world (Lu, *Warcross* 30).

On the other hand, Emika is determined to put an end to this control and abuse of power, unaware of the obstacles and threats that she faces. A bounty of five million for her death through a glimpse of Dark World’s Pirate Den while having a chat with Zero, which vanished quickly, leaving Emika startled and paranoid in the streets of Kabukicho, she is being chased by two assassins. Meanwhile, Zero is offering his help to rescue her and to join the Blackcoats, a team Zero is associated with. By this time, she knew that she was not safe in Tokyo, and she had to outsmart them to escape the situation. She is uncertain and confused about choosing sides. Nevertheless, she shakes hands with Zero to find the actual truth because she decides to avenge herself. Furthermore, she unveiled that Hideo’s control over the algorithm is taking on those who have upgraded to beta lenses. She decided to stop Hideo from promoting inhuman behavior. She also uncovered certain truths about Blackcoats and Taylor and of course about Zero’s real identity, and Hideo’s intention behind creating the NeuroLink.

The novel explores the relationships and experiences that are linked with the use of virtual reality, with the potential consequences of the integration of virtual reality (VR) into the lives of people. The protagonist of the novel, a female, Emika Chen, struggling for survival, living with the beautiful memories of her father, and those painting colors are still pondering in her little head. The narrative justifies it: “Dad just gave me a crooked smile and adjusted his glasses. There was still paint and glue stuck in his hair from when he was experimenting with fabrics earlier in the day. I’d need to help him cut the sticky strands out later” (Lu, *Warcross* 33).

Emika Chen is a bounty hunter in hard times with a constant stream of numbers

that run through her mind: a month's rent with additional unpaid rent, a month's food, electricity, and internet. There are so many instances where the protagonist faces discrimination. She faced discrimination because of her economic status and struggled financially. Being a hacker and a bounty hunter, she becomes fascinated to hear the news that a bounty of 5,000 dollars has been placed on the head of Martin Hamer for gambling on Warcross. With her intellectual and technological thinking and unquestionable hacking skills, she reveals the names of every person coming in contact with her phone's camera. She tracked her target's location with the aid of the tools she had in her backpack and her cracked phone. With her endless hacking skills on her chase to catch her target, she puts all her efforts into tracking him down. As narrated:

He shrieks and falls. Instantly, he tries to stand again, but I catch up to him. He grabs my ankle. I stumble, kicking at him. His eyes are wild, his teeth clenched and jaw tight. Out flashes a blade. I see its glint in the light just in time. I kick him off me and roll away right before he can stab my leg. My hands get a grip on his jacket. I fire the stun gun once more, this time at close range. It hits true. His body goes rigid, and he collapses on the pavement, trembling. (Lu, *Warcross* 10)

She manages to catch him, and the appearance of red and blue lights flashing on the wall relieves her. She starts thinking about the fortune for her work that she is about to get from the police. However, it took some time to make her realize that the police walked away from her. She is stunned by what she has witnessed. "Hey, Officer!" I shout, hurrying after the closer one. Are you giving me a ride to the station for my payment, or what? Should I just meet you" (Lu, *Warcross* 11). Disheartened by what she said, "You weren't first," shattered all the plans that she had made with that money (Lu, *Warcross* 11). Despite all the efforts she made, she did not get the promised bounty synonyms to the unpaid labor that women do in contemporary times. Living in a futile situation, she was disheartened by her defeat in trying to catch the hacker and, at the same time, deal with her unpaid expenses in the city of New York. Even after witnessing what she did there to catch the gambler, the cops gave a partial judgment and gave the bounty to someone else.

Marie Lu's *Legend* series is about Day and June. The series is set in futuristic, dystopian Los Angeles, ruled by the Republic. There is a fight between the Republic and the Colonies. June belongs to the Republic's elitist society, whereas Day is born in

slum areas where most of the colonies live. Furthermore, it is also seen throughout the narrative that there is a class difference and a portrayal of how a totalitarian government works. The slum areas are full of powerful people who are cut off from society and are considered nobodies. They face discrimination because they are poor and marginalized. The women characters are also shown as weak. Throughout the novel, some examples represent the plight of women even in a futuristic society.

There was an outbreak of a virus that hit the lake sector and was mainly spreading in the underprivileged areas because of poor sanitation and technological lack. The republics were unaffected because of the proper screening and tests done for their well-being. They can afford medications and vaccines to cure them. Unlike the rich and privileged, poor people are getting infected. Soldiers inspect each home regularly by wearing gas masks, and whenever someone tests positive, they mark the door with red color which means “no one is allowed to enter or leave”. The machine “Handheld Reader” is used to check for plague. The value of life in the lake sector was not worth a single penny, where in an incident, a plague victim, a woman who was somehow missed by the soldiers but was infected by the plague encountered the soldiers on a street, her symptoms were obvious to the one infected with the virus, she trips and falls to her knees asking for her life. Instead of helping her out, the soldier aimed his gun at the woman who engulfed her.

The use of sensors is a technical tool that was used by the republics in a gun. Gun manufacturing was also biased toward providing more benefits to the creator and the powerful ones. These sensors help the gun to be traced. As Day narrates, “... but the real problem with having a gun isn’t the expense. It’s that it’s so easy to trace back to you. Each gun has a sensor on it that reports its user’s hand shape, thumbprints, and location” (Lu, *Legend* 5).

### **3.3.1 Deceptive Data Practices**

The female characters of Marie Lu hold extraordinary qualities. June Iparis is a perfect scorer in the trial exam, where she scored fifteen hundred out of fifteen hundred. She is the youngest person at the University of Drake. She has such an intelligent mind and military skills. She can scale a skyscraper, but instead of all that control and intelligence, June is tricked by the Republicans. The heads of the republics give orders, and the people in lower positions are bound to follow them. June's brother, Metias, a person who always does his work religiously after getting hold of some confidential

information, was killed. His driver, Thomas, killed him on the orders of Commander Jameson. The data and information he got hold of were so confidential that it could put the whole Republic and its ruling at stake. To avoid that conflict, they decided to wipe him out. Furthermore, they tricked June, who is intellectual enough not to get fooled. The sentimental angle and framing of Day was a deliberate act to confuse her so that she gets off track. They manipulated the data, as June narrates:

Although it's covered up by his sleeve, I can see that a sizable circle of blood stains the cloth there. It couldn't all be spillover from the chest there must be another wound. I enlarge the photo again. Nope, too blurry. Even if there is a knifelike slice in the sleeve over his shoulder, I can't see it at this angle.

I close the photo and click on another one.

That's when I realize something. All the photos on this page are taken at an angle. I can barely make out the details on his shoulder and even on the knife. I frown. Poor crime scene photography. Why weren't there close-up photos of the actual wounds? I scroll through the report again, searching for pages I might have missed. But that was it. I go back to the same page, then try to make sense of it.

Maybe the other photos are classified. What if Commander Jameson took them out to spare me the pain? I shake my head. No, that's stupid. Then she wouldn't have sent any photos with this report at all. I stare at the screen, then dare to imagine the alternative.

What if Commander Jameson took them out to hide something from me (Lu, *Legend* 217)?

This manipulation is the misrepresentation where they intend to mislead her into believing that Day killed his brother, but in reality, they are the ones who are tampering with the evidence so that it looks like what they want it to.

Marie Lu has portrayed women taking different roles where Emika Chen is the hacker, Tess is a kind of medical nurse who tends to people's wounds, June Iparis is an intelligent Soldier, Kaede is a patriot soldier and spy, and Frankie is a hacker. Frankie is a hacker who was introduced in the novel *Champion*. With the help of her extraordinary skills, she helps Day, June, and Tess escape. With her little help, they were about to get the victory against the Troops. As Day narrates:

“... Give Frankie the okay—I gotta shake two more off my tail.” He hangs up. I contact Frankie. “We’re ready,” I tell her. “Let ’em go.”

“You got it,” Frankie answers. The Jumbo Trons suddenly stop their reel and go dark—the sound blasting across the city cuts short, plunging us all into an eerie silence. Colonies soldiers who’d probably been pursuing Pascao now look up at the blank Jumbo Trons in bewilderment, along with the others (Lu, *Champion* 152-53)

Frankie helped them by hacking the Jumbo Trons, but she got injured in the fight, and blood started gushing from her wounds. Tess narrates, “... Frankie’s eyelids flutter. She chokes out a strangled cry, then manages to look up at us. “You’ve—got—to go. The Colonies—they’re—coming—” but in the scuffle, they lost her. It takes a whole minute for her to die” (Lu, *Champion* 157). She died because she was a woman with skills that the androcentric society couldn’t tolerate to other factors. After all, she rebelled against the discriminatory practices.

### **3.3.2 Warcross Experience and Virtual Reality**

The novel revolves around the virtual reality game called ‘Warcross’, the game has taken the world by storm. The players in the game use the NeuroLink headset to lose themselves in a vast and advanced virtual world. A lot of people in the novel are invested in the game with “*Five hundred and twenty million*” just for the opening ceremony, which is probably the biggest event in the world (Lu, *Warcross* 24). Most people considered the game a revolution, while others related it to a stupid game. “Warcross was pretty simple: two teams battled each other, one trying to take the other team’s Artifact (a shiny gem) without losing their own” (Lu, *Warcross* 31). The game has artifacts, and “Power-ups can be worth a lot of money in the Warcross community” (Lu, *Warcross* 40). It is so well programmed that no one can breach it, but Emika manages to find a security bug. A hacker, one of the brilliant ones, an expert in the field, figured out how much these power-ups would help her in getting out of her misery. The game, which is a source of pleasure and entertainment for many, has now become a battleground for her life, where she is bound to steal the power-up “Death power-up” (Lu, *Warcross* 45). She manages to steal it because of her hack. But the power-up has its dangers as well, because of that hack, she glitched herself into the tournament. The virtual technology that she trusted has glitched her from the audience into the tournament. The complete trust in the technology has landed her in a bad

situation where everyone can see her now, and no one is rescuing her. She landed herself in a vulnerable situation where she could be arrested and charged as an adult. The reason she put her life at stake was because of her criminal record and the discrimination she could face afterwards.

She became an overnight sensation after she hacked into the opening game of the Warcross tournament. Figuring out her capabilities and skills, the creator of the game, Hideo Tanaka, approached her. She got selected as a wildcard in the year's draft, which isn't internationally ranked like other players. She regrets her criminal past and anticipates the possibilities and opportunities she would have procured. Hideo Tanaka, the handsome twenty-one-year-old who created the Warcross video game, hires her but doesn't reveal what position she will hold to confuse her because of her exceptional skills. Flying to Tokyo, she meets Hideo there. Excited to meet Hideo, but she still has little confidence in what she is going to get because of the discrimination she has faced in her past experiences. She lacks confidence in herself and considers herself inexperienced. She thinks about why she has been hired, "Hideo has indeed hired a few hackers in the past—to help him work out bugs inside Warcross—but they were way more experienced, and probably with no criminal records (Lu, Warcross 59). She is uncertain of so many things, maybe because she has been betrayed so many times. She has a lot of doubts about Hideo's intentions. What if he's angry with me and is waiting to dole out punishment once I'm in Japan (Lu, Warcross 59)? On the voyage, "she gets access to her account that brings up a scrolling menu, the words a transparent white in my view. I reach out to tap on one hovering menu item." She looks into her memories; some of them are beautiful, while others are related to her criminal record. Criminal for society, but not for her, because what she did was a brave act by a high school girl. She avenged Annie Patridge, an awkward, shy girl, weak in the eyes of other students and scared to make friends, who became a victim of discrimination and data abuse, which later led to death threats, already scared to open up with her classmates, but friendly to Emika Chen. She is mostly seen "picking her books off the ground after someone had knocked them out of her arms, or catch her backed up against the lockers while a bunch of kids stuck gum in her hair, or glimpse her stumbling out of the girls' bathroom with a crack in her glasses" (Lu, Warcross 72). A boy working on a group project with Annie did something unimaginable, he "managed to snap a photo of her showering in the privacy of her own home. The next morning, Annie's naked photo

had been sent to every student in school, shared on the school's homework forums, and posted online. Then came the taunts. The printouts of the photo, all cruelly drawn on, "The death threats" (Lu, Warcross 72). Emika gathered information from everyone who shared the photo, and with access to the school admin system, she hacked every single one of their phones and collected their personal information: phone numbers, all the hateful emails, and the private photos they sent anonymously to Annie. She posted it online, titling it: "Trolls in the Dungeon." (Lu, Warcross 73). Maybe it was all an 11-year-old could have done to bring people to their knees at the same time, avenging her friend. The alienation from society because of what happened to Annie is the result of data abuse. For a girl of her age, she couldn't tolerate the bullying that her classmate made her go through. The subordinates are not in the condition to speak for themselves, maybe because the others see their vulnerability, maybe because they think you won't retaliate. "They lunge at you because they see a vulnerable body. Or a different skin color. Or a different name. They think that you won't hit back—that you'll just lower your eyes and hide. And sometimes, to protect yourself, to make it go away, you do" (Lu, Warcross 73). This kind of discrimination later leads to issues like alienation, a feeling of isolation, anxiety, depression, and suicide.

Warcross is not just a game, it is a different virtual world. People wear virtual reality headsets that transport them into a lifelike experience. Inside the game, one can attain any identity they want, making them feel like they are physically present in the game environment. People are here to escape the real world. It blurs the line between the virtual and reality with a blend of technology and human experience. Players can have a sensory engagement with the virtual objects within the game that enhances the realism of the experience. Players can seamlessly switch between the virtual and real worlds. It has influenced business, education, and social interactions along with entertainment. But this game has a dark side as well. The virtual glasses that enhance the VR experiences came up at a price: the underworld. This world is the hub of hackers, where you cannot enter unless you don't know how to come out of it. This is the place where dangers lurk over the head of everyone.

A thriving underworld has always existed underneath the regular internet. It's the part of the online world you don't see, that no search engine will ever show you. That you cannot even enter unless you know what you're doing. The dark web is where hackers congregate, drugs are trafficked, sex is sold, and assassins

are hired. That has only increased with the popularity of Warcross and the NeuroLink glasses. (Lu, Warcross 91)

The popularity of NeuroLink and Warcross has attracted individuals who are engaged in criminal activities from the underworld, making it a controlling factor not only through the game and lenses but through the underworld as well.

### **3.3.3 Secret Blog and Plagues**

The plagues were induced by the factories of the Republics. According to the secret blog of Metias, which he has secretly written on a website. Through the jumbled words, June figured out some website, “WWW FOLLOW ME JUNE BUG DOT COM” (Lu, *Legend* 232). The blog is about how June and Metias’s parents died right after their father, Dr. Michael Iparis, aroused suspicion. Metias mentioned how truly he was into finding the cure for the plagues, only till the time he discovered something suspicious, he narrated:

The report said that Dr. Michael Iparis roused suspicions of the Batalla Hall lab administrators when he first questioned the true purpose of the research. He’d always worked on understanding the plague viruses, of course, but he must have uncovered something that upset him enough to make him quietly file for a change in work assignment (Lu, *Legend* 234-35).

While he was going through the old photographs of his father, he discovered something that forced him to dig deeper into the cause because, by this time, he was sure that Batalla Hall and Commander Bacarian were somehow related to the death of his parents. The Republic is believed as a just organization for the welfare of its citizens, instead it had a hidden agenda. They are illegally testing plague viruses on animals; they extract the strains from the animals and pump the virus into the environment.

And so every time an interesting new virus appears in the meat factories, the scientists take samples and craft them into viruses that can infect humans. Then they develop an equivalent vaccine and cure for it. And then they hand out mandatory vaccinations to everyone but a few slum sectors. Rumor has it that there’s a new strain developing in Lake and Alta and Winter (Lu, *Legend* 236-37)

Furthermore, the purpose of technology and government is contradicted here, where the resources are not being utilized for the betterment of society and its people. Instead,

it undergoes operations to keep people under control, where technology plays a prime role. Meanwhile, the best of the researchers and scientists are made to believe that they are promoting the cause for the betterment of the government. But the government, on the other hand, used diseases and viruses as a weapon to control and make people dependent on them for the antidote, with no one left to question their true intentions.

When Day discovered the pipelines near the bank and close to his house, and also in Batalla Hall. He figured out that the government was pumping something into society. Yet he had no evidence, but June learned the true purpose behind those pipelines from the blog of Metias. He wrote:

They pump that virus into the slum sectors through a system of underground pipes. Sometimes into the water supply, sometimes just directly into a few specific homes to see how it spreads. That starts off a new round of plague. When they think they've seen enough evidence for what that virus strain can do, they secretly prick everyone (everyone still alive, that is) in those sectors with the cure during a routine sweep, and the plague dies down until the next test strain. They also run individual plague experiments on some of the children who fail the Trial. They don't go to labor camps, June.

None of them do. They die.

Do you see where I'm going with this? They use the plagues to cull the population of weak genes, the same way the Trials pick out the strongest. But they're also creating viruses to use against the Colonies. They've been using biological weapons against them for years. I don't give a damn what happens to the Colonies or exactly what our Republic wants to inflict on them—but June, our own people are lab rats. (Lu, *Legend* 237)

The Republics discriminated against the Colonies by pumping viruses into their systems and taking away from them the basic thing that is life. They were making different variants of viruses just to eliminate the weak genes. They were taking away the chances of survival from those they considered weak.

### **3.3.4 Data Driven Inequality**

The trials, a government testing procedure done to determine the intellect and future of a child in the *Legend* series. Beneath this facade lie the algorithmic and biopolitical systems that reproduce the class-based and data-driven inequalities. The Republic

claims these trials as data measures of intelligence. Still, in reality, these results are manipulated to privilege the elites and suppress the poor, as narrated by Day, “You fail. It’s almost always the slum sector’s kids who fail ... they make your parents sign a contract giving the government full custody over you” (Lu, *Legend* 18). These trials mirror how algorithms justify social stratification under the guise of neutrality. Day became a rebel only after this trial. He stated that “they stamped something on my test and stuffed me onto a train headed downtown. I didn’t get to take anything except the pendant I wore around my neck. I didn’t even get to say good-bye” (Lu, *Legend* 20).

June Iparis, a prodigy with a high score in the trial, fell under the trap of the government there she became a victim of data manipulation. Emika Chen from the *Warcross* duology also unveils a system of domination, the NeuroLink, that monitors, quantifies, and manipulates human experience for profit. Hideo’s creation is designed to control criminal behavior through neural data manipulation, which forms the techno-patriarchal surveillance, depriving users, especially women, of their consent and agency. Emika resisted this control, reflecting a data feminist resistance through ethical hacking and counter-surveillance.

### **3.3.5 Technological Coercion**

As she wandered the lonely streets of Tokyo to meet her friends, unaware that she would be forced into a situation where she had to act according to the choices given by others. In one of the incidents, Emika was lying in an unconscious state in an unknown place with no clue of her whereabouts. She got drugged because she heard affirmations of two voices close to her in the darkness, “You shot her with a strong dose” (Lu, *Wildcard* 43). They forced her to submit by drugging and dragging her against her will. Numerous thoughts ponder in Emika’s mind thinking what made them do that to her, “... maybe it was to make sure I didn’t remember anything about where we were going or what path we took to get here – but now here I am lying in an unfamiliar room with holes in my memory” (Lu, *Wildcard* 44). She is a person of free will, where she can choose for herself, and without respecting her consent, the Blackcoats created a situation where she was left with no option but to come with them. They made schedules for her without her consideration. While she plans to meet Zero she felt nauseous of the whole situation, she says, “The sight of myself in the mirror, dressed fully in black, only reminds me of how foreign everything feels right now, how deeply I’ve gone into a hive and how likely it is that I might never come out of it” (Lu,

*Wildcard* 52). She is sitting in her room waiting for others to meet her, and while they approach the door, they knock to get permission to enter, she ironically felt “strange giving someone permission while I’m the one against her will” (Lu, *Wildcard* 52). She wonders how they can be so calm and at the same time concerned about her safety when they are the ones who threatened it in the first place. In that meeting, there is Dana Taylor, who worked at the Tokyo Institute with Hideo and Zero’s mother, Mina Tanaka. She is later revealed as the antagonist in the novel, and Zero and Jax are there as well. In that meeting, Zero mentioned the protection her account needs and invited her to connect with him virtually. In that instant, he gave her a cuff that now made her an official member of the team Blackcoats, which again was not what she asked for; every move they were making, was against her consent. She gave its description as “a black virtual cuff materializes to hover over his hand. Then he places that hand over my arm, and the cuff snaps into place around my wrist with a clean click. Like a shackle. A coat of black armor identical to Zero’s virtual gear clips all over my body in a ripple of movement...” (Lu, *Wildcard* 57). This is a mark of identity for her, according to Zero, which will recognize her as a part of their team, “It’s a Blackcoat mark,” he says. “You are now under our watch. - No one else will touch you.” He’s officially claimed me for the Blackcoats. I’m theirs now. I rub at my new cuff” (Lu, *Wildcard* 57). She has no idea what is cooking there for her. They consider their cause as just and fair and want her to be a part of their team, but this is their interpretation of their work. Emika has no chance to look into their true cause. Being trapped in a situation, she follows the orders and works as they please.

Discrimination is linked with control; the powerful ones control the weaker ones with procedures, if taken in terms of data and technology. These elements are highlighted by Marie Lu in her works through her characters. In the novel *Prodigy*, the leading character has been subjected to discrimination, where she, during her medical checkups, was forced to sit there to complete the procedures, just like Marie Lu portrayed in the *Warcross* series. Just as June narrates, “So. They can’t control what visions pop up, and they can’t see what I see. But they’re able to trigger something that forces these memories up to the surface. I keep my head high and my eyes on the doctor” (Lu, *Prodigy* 164). They wanted to control her brain to make her act according to them. Meanwhile, she faced discrimination because she held the power to threaten them, which would jeopardize their position they hold in a discriminatory way.

### 3.3.6 Apathetic Algorithmic Setup

Zero is an experiment done by Dana Taylor when she was working at the Japan Innovation Institute with her team. She started as a junior researcher and later became the executive director. She started an experiment to create an experimental drug to treat children dying from a disease. During a conversation, Jax showed Emika an archive of the institute when Taylor was working on that special experiment. Jax, a baby girl, was also a part of the experiment that Taylor did on children. Jax told Emika, “Every child you see in here is dying”

... “Of a disease, of an autoimmune disorder, of something terminal that medicine has deemed incurable” (Lu, *Wildcard* 186). The only possible way to cure those children, according to Taylor, was to enroll them in a revolutionary experiment. Taylor misled Mina Tanaka into believing that the experiment would work; it involved a child’s mind, and Jax and Zero were a part of it. The experiment can work, “... by taking advantage of the child’s young cells to turn their own bodies into collection of supercells” (Lu, *Wildcard* 186). This study was just a showcase carried on by a small group of teams to cover the actual experiment. “The real study” (Lu, *Wildcard* 186), she experimented without thinking about those innocent souls for her ambitious gains. She experimented on the brains of children, and Jax narrates: “... requirement of this study was each child’s mind. A minimum IQ of at least one sixty was necessary for the trial. They had to show remarkable self-discipline. They needed to demonstrate unusually high drive and motivation. Their brains had to light up in a very specific way during a series of exams Taylor gave them ...” (Lu, *Wildcard* 188). Sasuke was her prime subject for the continuation of the experiment. Because of his intellect, she achieved what she wanted to. Sasuke is the son of Mina Tanaka, who was also working at the Japan Innovation Institute with Taylor, but she was not aware of her intentions. He is the brother of Hideo Tanaka, who is the creator of the algorithm, Warcross, and the NeuroLink. Even Hideo achieved fame and recognition at a very young age, showcasing the high intellect of the entire family. The dialogue between Emika and Jax continues when Jax tells her about Sasuke’s mind. She says,

"You know how smart Hideo Tanaka is. Sasuke was even more so. He tested effortlessly into every single academy he qualified for. The way Taylor found me at the orphanage in the first place was because she'd heard about my high IQ score. She found out about Sasuke through Mina herself, since the two of them worked in the

institute...” (Lu, *Wildcard* 188). Even Jax herself was a part of that experiment; she is Taylor’s adopted child.

To give success to what Taylor wanted she required a strong mind so that she could experiment and separate mind and body which makes sense why she wanted the children suffering from terminal illnesses, so that no one could stop her from conducting her inhuman experiments and if any child dies during the experiment the blame goes on their illnesses, not the assessments. She believes her experiment and “what she’s doing is noble” (Lu, *Wildcard* 191) and to her, that realization gives a sense of satisfaction of what her experiment will contribute. She discriminated in choosing those children suffering from mental illness because they are weak, with no chances of survival in comparison with those who are healthy.

She is involved in many illegal activities under the disguise of Blackcoats. This Apathetic algorithm creation was what she always wanted, even when she was a young child. Her childhood was traumatic, and she had a fear of death, which she always carried along within her.

Taylor grew up during a rough time, around when the Soviet Union collapsed. Her father laundered money for a living. As a child, Taylor saw more than her share of death. She ended up studying neuroscience because she was always interested in how the mind works – the way it manufactures every aspect of our world. The mind can make you believe whatever it wants you to believe. It can bring dictators to power. It can crumble nations. *You can do anything, if you put your mind to it.* (Lu, *Wildcard* 179)

Being afraid of death, she decided to make a weapon. A mind that, even after physical death, will be eternal forever. A virtual mind and her experiment were “*Project Zero*” (Lu, *Wildcard* 193). In her first experiment, even after Zero's parents denied their son’s part in the research, she kidnapped him from the park to carry on her research. She is indirectly related to what Hideo has created, a NeuroLink to find his lost brother. She carried on with her inhumane cause with a seven-year-old child, Sasuke.

The prime requirement of her experiment is to take the person’s emotional ability to think and replace it with a detached, more rational, and logical mindset. During the study, she and the other researchers started analyzing Sasuke closely. At one instance, Sasuke, while watching television with Jax, saw his brother Hideo, “... the smile on his face is a genuine one. “That’s my brother, Jax!” he exclaims, pointing

at the screen. "There! He's on TV! You see him? Look at him! He's so much taller!" His eyes are wide-open, shiny with new tears, fixated on the TV as if terrified the broadcast will stop" (Lu, *Wildcard* 199). They intentionally showed him news related to his family just to record his reaction. Sasuke reacted in the early days of the analysis, but with time, he became cold to what he saw or witnessed. The technicians kept on repeating the same procedure on him by recording his reaction, "Not long ago, he had grabbed Jax's arm and cried at the sight of his brother. Now, he watched the interview with notable interest, although he didn't seem truly affected by it. It's as if he were fascinated by celebrity instead of missing his brother" (Lu, *Wildcard* 205). They observe his every reaction closely and minutely. "Zero's signs of recognition still holding steady at eighty-four percent. Overall response times have improved by thirty-three percent" (Lu, *Wildcard* 205). They have made him hollow: "... they've taken away *something* – something real and human" (Lu, *Wildcard* 205). They are achieving success with what they want to get complete control of someone's empathetic well-being and making them devoid of emotions and empathy. The result that Taylor always desired.

### **3.3.7 Project Zero**

When an individual's will is under the control of another person, it creates an opportunity for the latter to engage in discriminatory practices and choose their manner of functioning, reacting, perceiving, and analyzing various aspects. It grants people full autonomy to function according to their preferences. This was Dana Taylor's motivation; she desired to construct something she had complete control over, to create a mind free from will, a mind not, "... dependent upon the rest of the body, ... operate forever" (Lu, *Wildcard* 179). The project in question is referred to as "Project Zero" (Lu, *Wildcard* 193). The 'Project Zero', according to Taylor, in the words of Jax, is:

"Project Zero is an artificial intelligence program," she tells me. "Over the past few years, artificial intelligence has improved everything from search engines to face recognition, to the ability for a computer to defeat a human at complicated mind games like Go. But Project Zero is building on that, to install the advances of AI into the human mind and the human mind into AI, to blend the two so that we can have all the benefits of a computer's mind – logic, speed, accuracy – and the computer mind can have the benefits of a human's – gut reactions, imagination, instinct, spontaneity." (Lu, *Wildcard* 206)

This Project has benefited her. With the help of artificial intelligence, Taylor has done what can be termed as algorithmic discrimination. She is now the sole control of Zero, who once was Sasuke, a child with life, family, and emotions. She is a beast in human form and has done every inhuman thing. She used little children's illnesses for her benefit, she played with the wills of others, she kept the little children in hollow spaces, and she used them as dummies for some next experiment. She has remodeled his mind: "The end goal is to transform him into nothing but data" (Lu, *Wildcard* 207).

Others in the novel including Emika, her friends, and Hideo believed Zero to be real but nobody knew that Zero died a few years back and Taylor succeeded in what she wanted to separate "his mind from his body" (Lu, *Wildcard* 206), she succeeded in "transferring his mind into a machine" (Lu, *Wildcard* 206), she succeeded in creating a "machine she can control" (Lu, *Wildcard* 206). Jax told Emika that Sasuke died a few years ago and Zero is the virtual illusion that Taylor successfully transmitted into data.

### **3.3.8 Language as a Codified Power**

Elaine Showalter, in *Towards a Feminist Poetics* (1979), identifies the linguistic model of gynocriticism for a woman to reconstruct language to articulate female consciousness. She asserts that "The task of feminist critics is to find a new language, a new way of reading that can integrate our intelligence and our experience, our reason and our suffering, our skepticism and our vision" (Showalter, "Towards a Feminist Poetics" 39). Her metaphor of "new language" takes on symbolic relevance in Marie Lu's data-worlds. In the *Legend* series and the *Warcross* duology, language evolves, which is no longer confined to words but data, code, and algorithms. For example, June Iparis decodes the Republic's propaganda language, using the Republic's tools of oppression for her own use with her intellect, "I click my mike back on ... code. "Get me out of here. Use my gun's tracking," (Lu, *Champion* 240). Whereas Emika Chen rewrites the code of NeuroLink by using her wits. She narrates, "I channeled every bit of my energy into learning everything about code and Warcross and the NeuroLink that I could get my brains on" (Lu, *Warcross* 32). It aligns with the data feminist practices that challenge algorithmic control and reconstruct ethical language in data systems.

In "Towards a Feminist Poetics," Showalter elucidated that "the programme of gynocritics is to construct a female framework for the analysis of women's literature, to develop new models based on the study of female experience, rather than to adapt

male models and theories (28).” It relates to the modern context of data feminism, where data science and algorithms often lack female inclusivity, particularly in terms of the experiences of women, women of color, and marginalized communities. Which, according to Showalter, is a place “when we free ourselves from the linear absolutes of male literary history, stop trying to fit women between the lines of the male tradition, and focus instead on the newly visible world of female culture. This male tradition of power in contemporary times is exercised through digital corporations and male models in the form of algorithms, surveillance, and exclusion of the interests of women and the marginalized. According to Showalter, “experiences of women can easily disappear, become mute, invalid and invisible, lost in the diagrams of the structuralist” (“Towards a Feminist Poetics” 38), which leads to discrimination and privacy violations in the digital realm. This experiential exploration is done in the novels of Marie Lu, where the female protagonist experiences discrimination, subjugation, and privacy invasion. These experiences are also explored from the psychological point of view.

### **3.4 Comparative Analysis of Showalter’s Gynocriticism and Data Feminism**

Elaine Showalter’s feminist concept of Gynocriticism when evaluated through the lens of data feminism is also relevant to the forms of feminist writing that have emerged as a result of digital technologies today. Showalter suggests that gynocriticism’s purpose is to “construct a female framework for the analysis of women’s literature, to develop new models based on the study of female experience, rather than to adapt male models and theories (28).” In the same way, data feminism also stresses on “why data science needs feminism” (D’Ignazio and Klein 3), critiques lack of female-based paradigms within data science, artificial intelligence, and algorithmic systems. It also introduces a “humanistic thinking” by creating more opportunities for humanistic scholars. *Data Feminism* begin with Christine Darden’s story that came into light with Margot Lee Shetterly’s *Hidden Figures*. Darden advocated for the rights of other women computers and made contributions to data science (D’Ignazio and Klein 3). D’Ignazio and Klein questions and targets “standard practices in data science” and how these practices “serve to reinforce these existing inequalities,” it also challenges and changes “the distribution of power” (8-9). Similarly, Showalter also illustrates the continued exclusion of women’s experiences from literary history as it has been defined by male literary figures.

### 3.4.1 Biological Model and its Data Feminist Equivalent

Using Showalter's biological metaphor as a basis, she writes in "Feminist Criticism in the Wilderness" about how the female body is a source of knowledge, creativity, and experience, linking the female body to textual production. Showing that, "Women generate texts from the brain ... with its compactly coded microchips, its inputs and outputs, is a metaphorical womb" (Showalter, "Feminist Criticism" 187), this distinction increasingly becomes relevant in the digital age as the female body itself is represented as data through biometric surveillance, algorithmic identifications and digital monitoring. For example, *Data Feminism* emphasize on the "the proliferation of biometrics ... disproportionately deployed to surveil Black bodies" (D'Ignazio and Klein 12); also critiques the notion of "algorithmic fairness" (D'Ignazio and Klein 62). The concept of data or digital monitoring is elucidated by Rita Railey's "Dataveillance and Countervailance" where she "characterize contemporary digital monitoring practices as "dataveillance"" (D'Ignazio and Klein 240) (Railey 124). Data feminism argues that data-driven technology is not neutral, it is used to reinforce systems of patriarchal power by quantifying physical identity into data points that can be measured and controlled. Technologies such as facial recognition systems, biometric databases, behavioral tracking and surveillance systems are all ways in which female autonomy is monitored and potentially used for exploitation.

Through her narratives in *Warcross* and *Wildcard*, Marie Lu uses female characters as examples of how data-driven technology can undermine privacy, agency, and identity in the context of women's bodies being used as data. Emika Chen uses her abilities as a hacker to give her a sense of empowerment and intellectual agency; however, the visibility provided to Emika via technology puts her at risk within the surveillance system of NeuroLink. Emika's data, behaviour patterns, and cognitive abilities are tracked, categorized, and manipulated continuously by male-controlled data-driven systems. Emika's body is no longer a physical entity, it becomes a commodity in the virtual economy of data and the transformation of personal identity into observable and exploitable data. Emika's data tracked through NeuroLink, an artificial intelligence that can fix human "flaws better than any human police" (Lu, *Warcross* 338). NeuroLink interfaced human brain through codes that "displayed what your brain wished" (Lu, *Warcross* 338). When viewed through the

prism of data feminism, this is an example of the ways in which algorithmic infrastructures commodify women's identities and create datasets representing women that can be monitored, ranked, and controlled.

Similarly, the incident where Annie had her image exposed without her permission shows the risk of technological advances on women's bodies. The sharing of intimate pictures without consent reflects an overall culture of technological misogyny where women's bodies are reduced to the objects of viewing, being used for public consumption, and being fed through algorithms. Data feminism reveals that these types of incidents are results of patriarchal culture that treats women as objects rather than having their best interests taken into consideration by designing their standards of privacy.

The experiences of June Iparis in *The Legend* series further glance at how the biological ideology can be incorporated into a state surveillance system through biopolitical control. June, being a prodigy under Republic's surveillance whose body is considered as a dataset. Her body is analysed and evaluated by "trials" that determine her worth based on her productivity and obedience, and uses surveillance measures to ensure that she continues to meet those standards. Her identity is formed through systems that measure people's worth based on their obedience for the organization. Data feminism critiques this type of classification because algorithm-driven governments always reinforce existing inequalities while pretending to be objective and rational. June's experiences with her body being constantly monitored are indicative of how data-driven governments exercise control over woman's body, movement, performance and identity using technology.

Showalter's states that the "experiences of women can easily disappear, become mute, invalid and invisible, lost in the diagrams of the structuralist" ("Towards a Feminist Poetics" 38), has even greater meaning in the age of digital technology. The experiences of women in today's algorithmic culture are frequently erased through data that contain bias computer programming practices that are inaccurate and systems that favor the dominant groups in society. Women and darker-skinned people are misidentified by facial recognition systems at higher rates than any other group, online moderation systems often do not protect women from social harassment; and predictive algorithms reproduce the social inequalities that were present in the data used to create the algorithm. The works of Marie Lu depict the

reality of these situations through the experiences of female protagonists whose identities are threatened by technologies that watch them, expose them, and dominate them.

### **3.4.2 Linguistic Model and its Data Feminist Equivalent**

According to Elaine Showalter, ‘Gynocriticism’ is founded on the understanding of how women have historically interacted with literature and language. In her theory of gynocriticism, she states that feminist criticism needs “to invent a language that is not oppressive, a language that does not leave speechless, but that loosens the tongue” (Showalter, “Women’s Literature”, 191). Showalter’s concern stems from the fact that the language that is used for communication is generated by patriarchal systems that exclude, or distort female experiences. She also emphasized on the creation of a language that does not confine the female authors to use a language that is foreign to their experiences and identities. Showalter acknowledges how the “women’s literature is still haunted by the ghosts of repressed language,” (Showalter, “Women’s Literature”, 193) suggesting women struggle against the existing inherited privileged masculine language. When interpreted through the lens of data feminism, Showalter’s linguistic model of gynocriticism has a contemporary relevance because throughout the digital age, language has expanded from conventional forms of speech and writing to include system languages (e.g., codes, algorithms, databases, etc.) that establish social structures through digital and online networks. In *Algorithm of Oppression*, Safiya Umoja Noble revealed how the bias is engraved and encoded into the systems, she asserts, “both gender and racial biases are encoded into some of the most pervasive data- driven systems— including Google search, which boasts over five billion unique web searches per day data-driven systems” (D’Ignazio and Klein 28). Ruha Benjamin also targeted this bias through software systems naming it as “the New Jim Code” “where software code and a false sense of objectivity come together to contain and control the lives of Black people, and of other people of color” (D’Ignazio and Klein 55). Data feminism asserts that codes and algorithms are the primary method of communication for technology and, therefore, are created from a male-dominated point of view and reflect current social biases. In the book *Data Feminism*, Catherine D’Ignazio and Lauren Klein also associate with Showalter’s notion of male-centric language. They exemplified it through the acknowledgement, “If you were a woman and you knew your contributions to a programming project

were less likely to be accepted than if you were a man” (D’Ignazio and Klein 180). The authors also targeted the default privileged standardization of male authority in language, “For example, people say “green bananas” but not “yellow bananas” because yellow is implied as the default color of the banana. Similarly, people say “woman doctor” but do not say “man doctor,” so it is the words that are not spoken that encode the bias (D’Ignazio and Klein 15). These systems frequently perpetuate patriarchal values and dynamics because datasets, design teams, and institutional frameworks that create them are still very much male-dominated in nature. Therefore, the context of Data Science can be perceived as oppressive by encoding gender-based inequalities into technology-based infrastructures, and at the same time, claiming to be objective and neutral.

Marie Lu's novels exemplify the relationship between language, power and technology for her female protagonists. Emika Chen (protagonist in both *Warcross* and *Wildcard*) interacts with NeuroLink, a technological system governed by male-dominated algorithms of power, control and data authority. Emika, an expert in programming and hacking, still her abilities undermined because of her gender, social class, and family background. She unveiled the dark side of coding and algorithm, she narrated, “type in a command and use that to tell the brain what to do. Type in enough commands, and the brain can be permanently controlled. And Hideo has created an entire algorithm to do this” (Lu, *Warcross* 339). By breaking through the physical architecture of NeuroLink, Emika not only acts as a form of technological resistance but demonstrates a feminist intervention into the male-dominated digital language of technology, ““You are controlling how people think,” I say, “. . . with code?”” Emika mastered the ability to rewrite the codes and expose hierarchical structures of power by questioning Hideo, “But you control the algorithm” (Lu, *Warcross* 339). She questions this inherent belief that males are the possessor of the technical expertise in technology-related fields. Therefore, Emika's hacking represents a form of feminist linguistic agency reclaiming the language of algorithms and data from a male-dominated tradition. Emika’s ability to create and manipulate code aligns perfectly with Showalter’s assertion that women produce texts through unique ways of expression. Specifically, the idea that “Women generate texts from the brain . . . with its compactly coded microchips, its inputs and outputs, is a metaphorical womb” as a result of technology (“Feminist Criticism” 187), has a significance in a high-tech

society wherein coding has become such a significant method of producing written work. By being able to produce alternative stories within digital environments through her knowledge and skill with code, Emika directly challenges masculine systems that exist within the world of NeuroLink.

Additionally, the *Legend* trilogy exhibits similar themes regarding how language functions as a means of exercising authority through the methods employed by the Republic with regard to creating and using systems to classify and communicate. In the Republic, citizens are assessed and assigned relative social status using assessments, rankings, and numerical ratings or evaluations, which collectively create opportunities for an individual, thereby determining their life and death, “the day I failed my Trial, the day I was supposed to die” (Lu, *Legend* 24). These numerical categories represent an example of coding language as a means of the state communicating value, privilege, and exclusion, and also forms of data power, which reduce an individual to a quantifiable metric that obscures the structural inequalities of society. The experiences of June Iparis and Day create additional examples of how individuals resist restrictive and oppressive means of communicating by developing new languages or means of communicating as a means of resistance. Their coded messages and specialized means of communication act as a form of resistance to the monopoly held by the Republic over the use of information. Such as June’s use of a personalized coded language, “I whisper after I input his code. “Get me out of here. Use my gun’s tracking” (Lu, *Champion* 231). Similarly, the encrypted messages sent by Metias, “A secret code” which seek to expose the corruption present in the government, represent an effort to reclaim a sense of truth that was manipulated by the government through the use of surveillance and control of data (Lu, *Legend* 231). Using the capabilities to encrypt and decrypt messages, these efforts represent a form of feminist resistance to systems regulating knowledge and suppressing dissent.

From a data feminist perspective, the unbiased data collection and analysis by the data scientists pose a threat to women in both digital spaces and physical ones. This can be best exemplified through these terms from the text *Data Feminism* such as bias in algorithm, harmful algorithms, reflection of social inequalities, the *New Jim Code*, privilege hazard and sexist algorithm. Facial recognition systems produce a higher error rate when attempting to identify women and members of marginalized groups, for example Joy Buolamwini, a graduate at MIT working on a project using

facial analysis software pointed the disparities in facial recognition system, where “both the training data and the benchmarking data relegate women of color to a tiny fraction of the overall dataset” she launched Algorithmic Justice to favor black women and people of color, she termed it as the privilege hazard (D’Ignazio and Klein 29). Automated content moderation systems are not enough to protect women from online harassment, nor from gender-based attacks executed online. Such as Google search engines optimize for success, thereby amplifying misogynistic material, and recommend it to those searching through its search engines, thus exacerbating this problem (D’Ignazio and Klein 28). Virginia Eubanks in *Automating Inequality* elucidated the “excessive surveillance” of powerful institutions that collect and analyze personal data without regard to privacy or safety of women (D’Ignazio and Klein 39). The technological languages embedded within these products create a hierarchy placing certain identities and experiences at the top, and rendering others either invisible or inaccurate. Showalter’s concern that women exist in a haunted world of “repressed language” has a current counterpart in these algorithmically structured systems that suppress or de-emphasize female experiences. From this perspective, data feminism advocates for the creation of new technological constructs that emphasize equity, inclusivity and intersectionality. Marie Lu’s female protagonists are examples of women who struggle to deform existing digital languages, exposing the systemic power dynamics that exist among them in the context of technological interactions. They embody Showalter’s mandate for creating a liberating rather than silencing language, and are further expressions of the project of feminist linguistic resistance.

### **3.4.3 Psychoanalytic Model and its Data Feminist Equivalent**

The psychoanalytic model proposed by Elaine Showalter, challenges the assumption about the female creativity that is associated with “lack” by the Freudian and post-Freudian theorists (Showalter, “Feminist Criticism” 194). In fact, Showalter suggests that women have always been positioned within the patriarchal structure as a subject of being “displaced, disinherited, and excluded” (Showalter, “Feminist Criticism” 194). As a result, many women view their identity as being ‘a painful obstacle or even a debilitating inadequacy’ (Showalter, “Feminist Criticism” 195). To develop her psychoanalytic framework, Showalter’s analysis of these conditions originally focused on literary and cultural implications. However, as society develops into the

age of technology, her psychoanalytic model takes on new and contemporary significance based on how the existing technological infrastructure produces similar types of dislocation and regulation to those seen in the past. With the emergence of algorithmic systems, surveillance infrastructure and data-driven governance in the digital age, such systemic mechanisms affect not only how individuals perceive their opportunities socially, but also how individuals perceive their self-worth and belonging.

Data feminism challenges this notion that data technologies are objective and neutral. In reality, these technologies reinforce existing power structures. Data technologies define subjectivity through visibility, trustworthiness, and societal constructs which use an algorithmic classification system to define who is value-based and who is not. For instance, recommendation systems, behavioral tracking, social media metrics all evaluate individuals against standards that are mostly invisible to those being evaluated. The result of using these technologies is to produce what has been termed as “algorithmic subjectivity” whereby an individual will begin to take internally how they have been evaluated from the outside and measure themselves against a computational standard (Baumer et al 5). For most females, and particularly those who are not a part of the dominant social group, these technologies reproduce feelings of exclusion, inferiority, and marginality, which parallel Showalter’s psychoanalytic conditions of “lack.”

The experiences of Emika Chen in *Warcross* and *Wildcard* can demonstrate the psychological effects of living in a technology-infused world. Although Emika is exceptionally skilled at using technology, she constantly has to navigate systems that are governed and operated by men, “the NeuroLink”. Emika’s socioeconomic status and gender always create skepticism and doubt around her intelligence, leaving her to prove herself capable of doing things that others expect. The continual observation of Emika due to the extensive use of the NeuroLink surveillance tools, creates a persistent state of being aware of being watched, “someone is watching me” resulting in a cumulative effect of anxiety and fear of losing autonomy, “I can feel it—the eerie sensation of being followed, an invisible gaze locked on my back” (Lu, *Wildcard* 7). In addition to being monitored physically through a system that surveil, analyze, and predict her behavior, Emika experiences the psychological toll of living in such an environment. Her situation illustrates how algorithmic monitoring creates feelings of

vulnerability and self-consciousness that affect one's sense of identity, Emika's expertise didn't refrain Sasuke from hacking into her account, she narrates, "He once stole my father's Memories from me" (Lu, *Wildcard* 25). Showalter points out that women are typically described as being "displaced, disinherited and excluded," this is evident in Emika's experiences trying to exist in male dominated technology. While Emika has proved her skills in the field of technology, still she is perceived as incompetent who does not have expertise therefore her credibility is questioned. In line with the data feminist view, women are typically excluded from positions of power, such as Christine Darden and her other human computers denied promotions is a perfect example. In the field of data science and technology, this translates into systems that are created without taking women's experiences into account. Exclusion from technology positions is both institutional and psychological. Women continue to be given the message that they do not belong in technical spaces and therefore develop doubt about their own abilities. This creates an ongoing need for women to demonstrate their abilities and reinforces the type of inadequacies that are criticized by Showalter.

In this sense, Showalter's critique of psychoanalytic theories of female "lack" take on new significance today. The feelings of unworthiness experienced by women are not an inherent psychological condition but rather an effect of processes that repeatedly subordinate them as secondary, invisible and inadequate. Through data feminism we see that algorithmic systems tend to reproduce the conditions creating women's feelings of inadequateness through embedding historic inequalities into the technological infrastructures that serve as the basis for these systems. The narratives of Marie Lu's female protagonists illustrate the psychological impact of such structures such as the NeuroLink's surveillance, and algorithmic profiling are the modern psychoanalytic mechanisms that cause exclusion and internal conflict. Emika experiences anxiety when being watched at all hours and June has developed a disjointed sense of self as a result of being governed by Republic's rankings and algorithms, hence, technological power effectively colonizes a person's mind just as power does through control over one's body. Freud's patriarchal culture defined women through "lack," contemporary data systems define individuals through scores, rankings, profiles, predictions, and behavioural metrics. In both cases, identity is constructed externally rather than through self-definition. This parallel creates a

powerful bridge between Showalter's psychoanalytic gynocriticism and the core Data Feminism critique of classification, surveillance, and algorithmic power.

#### **3.4.4 Cultural Model and its Data Feminist Equivalent**

Elaine Showalter's cultural model of gynocriticism changes emphasis from the individual woman's experience to the broad framework of society, politics, and history which shape women's lives. She argues that because of "male-centered" contemplation of history, women "have been left out of history," they provide predominantly "inappropriate" questions for women's contributions, experience and knowledge from these historical perspectives (Showalter, "Feminist Criticism" 198). Showalter proposes that in order to fix this historical oversight, there should be "an account of the female experience over time and should include the development of feminist consciousness" (Showalter, "Feminist Criticism" 198). This argument made by Showalter has special significance for the Data Feminism framework, which also critiques the exclusion of women's and other marginalized voices from systems of knowledge production. Similarly, Data Feminism establishes that data collection, algorithmic design, and technological infrastructures are shaped by cultural assumptions that tend to privilege dominant groups while making women and other marginalized populations invisible, misrepresented, or excluded from dominant cultural narratives:

Embracing the value of multiple perspectives shouldn't stop with transparency and reflexivity. It also means actively and deliberately inviting other perspectives into the data analysis and storytelling process—more specifically, those of the people most marginalized in any given context (D'Ignazio and Klein 137).

Cultural models are an effective method of analysis for Marie Lu's novels. Lu's dystopian narratives illustrate the role of technology, data and surveillance in maintaining social hierarchies through the power of large institutions. Lu weaves together technological systems in both the *Legend* series and *Warcross* duology with political authority, corporate power, and patriarchal structures leading to the conclusion that data and technology serve not as neutral tools but as mechanisms through which dominant institutions create and reinforce cultural norms and sustain existing disparities. Both the *Legend* series and *Warcross* Duology demonstrate another critical tenet of data feminism, data is always more than just technical, it exists

within cultural and political contexts.

In *Legend* series, the Republic's citizens are oppressed through human experimentation, disease outbreaks, and social inequality representing the use of data control as a mechanism of cultural control. This issue of knowledge manipulation is consistent with Showalter's findings regarding the historical authoring of history from the perspective of people in power, that wields in absence of minority voices from the collective memory. The Republic's trial system demonstrates how technological classifications entrench social inequality in the guise of objectivity. For example, Day's purposely manipulated exam score illustrates how the use of data to categorize individuals may be used to reinforce class divisions and keep individuals from accessing privilege June narrates, "*Another prodigy—and not just an average one. I've met other prodigies before but certainly never one that the Republic decided to keep hidden. Especially one with a perfect score*" (Lu, *Legend* 191). Data feminism critiques in this way the use of classifying systems, "people think of data as numbers alone, but data can also consist of words or stories, colors or sounds, or any type of information that is systematically collected, organized, and analyzed," rather it became a numerical rating that conceal the social bias (D'Ignazio and Klein 14). Furthermore, June Iparis' experience demonstrates how cultural values are reproduced by data-driven institutions. As an elite citizen of the Republic, June initially believes in the Republic's metrics of success, which she assumes are intelligence, obedience, and achievement, all of which she corresponds to social value. However, as she becomes increasingly aware of the corruptness of the Republic's institutions, she begins uncovering the ideological assumptions, "I narrow my eyes. 'You think the Republic is intentionally poisoning people?'" critically aware of the systems that create inequality and exclusion (Lu, *Legend* 196). Lu reveals through June's transformation that people can utilize their realizations to challenge dominant narratives by questioning the data and institutions that form our cultural reality. Showalter argues that the purpose of Gynocritics is to "free ourselves from the linear absolutes of male literary history, stop trying to fit women between the lines of the male tradition, and focus instead on the newly visible world of female culture" (28).

The power of data also shapes cultural implications in both *Warcross* and *Wildcard*. In Emika Chen's world, corporate entities have unprecedented power over the ways people interact, how they communicate, and how they create knowledge

within a technologically advanced society. The NeuroLink serves as a technological advancement and a cultural infrastructure that mediates how individuals live daily through extensive data collection, digital immersive experiences, and monitoring of behaviors. Data feminism labels these systems as examples of surveillance capitalism because they continuously extract, analyze, and monetize an individual's personal information. Thus, culture becomes increasingly regulated by data-driven corporations, which have conflicting interests from individual autonomy and the collective good of society. As a young, Asian woman from a working-class background, Emika is in a unique position to challenge predominant ideas of who can be technologically innovative and an authority on technology. Through her experience, Emika provides insight into how technology access is restricted by gender, class, and socio-economic status. Despite Emika's exceptional programming and hacking abilities, her competence is consistently dismissed in male-dominated, technologically sophisticated environments.

The marginalization described here is part of the overall concern of data feminism about continuing to reproduce dominant social groups' perspectives with technological industries which results in systems that underrepresent women and other marginalized groups' experiences, the authors states that "one of the most dangerous outcomes of the tools of data and data science being consolidated in the hands of dominant groups is that these groups are able to obscure their politics and their goals behind their technologies" (D'Ignazio and Klein 59). Therefore, Emika's resistance can also be understood as a form of cultural intervention through her challenging of structures that define who is authorized to innovate with technology and what type of knowledge is viewed as valuable. Additionally, data feminism posits that a cultural identity can also be diminished when people and communities are reduced to mere data points in technological systems that do not accurately reflect the complexity of their lived experiences to which Anita Gurumurthy called "the empiricism of lived experience" (D'Ignazio and Klein 29). It manifests from the algorithms that are typically generated from data collected from historical context of inequality, "developments are exciting, but there is further to go with respect to issues of power and inequality that affect data collection environments" they will often continue to replicate those inequalities within digital systems (D'Ignazio and Klein 169). Consequently, the algorithms used in technological systems to make

recommendations, to develop predictive analytics, to create automated profiles, and to surveil provide a digital environment where people particularly women are continuously erased or misrepresented within the technological realm, which mirrors the historical erasure of women from the male-centered contemplations of society and culture as identified by Showalter.

**Chapter 4**  
**Devaluation of Privacy Protocols and Psychological**  
**Complexities**

The field of women's digital health, caused by Psychological Complexities, examines how a woman's gender influences her biological and psychological well-being. Devaluing data refers to the devaluation of privacy protocols. The devalue-the-data concept is being used by card networks, issuers, processors, and merchants to ensure that sensitive cardholder data is not transmitted to the point-of-sale systems or otherwise compromised. Devaluing data related to the privacy of women causes enormous psychological complexities. According to the Cambridge Dictionary, "psychological" is "relating to the human mind and feelings," and "complexities" are "the features of something that make it difficult to understand or find an answer to." Therefore, psychological complexities are the challenges faced by humans to understand or feel something. Hence, protecting private information and financial data is more important than ever in today's digital economy. Sexual and reproductive health (including pregnancy, STDs, and menopause), physical health and life expectancy (including nutrition, exercise, and weight management), and mental health are only a few of the many aspects that make up women's health. Those facets of women's health stated above are typical descriptors of the impacts of devaluing data privacy.

The digital world permeates more and more aspects of our lives, and as technology advances, so do ethical concerns. The emerging academic subject that seeks to address these issues, which we will provisionally label "digital ethics," has the potential to serve as a valuable intellectual resource for policymakers and regulators (Dowrick 6). This is why it's essential to learn how the academy is adapting to the new ethical issues of a digital society. To learn more about the history, breadth, and development of the study of digital ethics, we conducted a scientometric study. In this work, an interdisciplinary approach is used to illustrate the breadth of the area of digital ethics with the compilation of list of relevant articles by first having experts choose a set of keywords representing core concepts in digital ethics. The initial research shows that there has been a meteoric rise in the amount of literature dedicated to the topic of digital ethics. It is also determined that contrary to popular belief, computer science, law, and biological ethics are not the only disciplines where digital ethical concerns are being debated. Ethical discourse is being formed in these domains around tangible and frequent technological challenges, more so than in the separate field of ethics. Moreover, it appears that some crucial ethical values are widely

celebrated in one area (such as autonomy in medical science) while being virtually entirely ignored in another. It is concluded that to get a firm grasp on all the challenging ethical questions of a digital society, ethicists, policymakers, and legal scholars will need to become familiar with the concrete and practical work being done across a wide range of scientific disciplines to address these questions.

Siobhan Byrne and Allison McCulloch in *Power-Sharing Pacts and the Women Peace and Security Agenda* compares and contrasts two prominent conventions for resolving conflicts: ethnic power-sharing agreements and the women, peace, and security (WPS) agenda (Byrne & McCulloch). Scholars and practitioners of power sharing and feminism, both of which have been promoted by governments and international organizations over the past two decades, often see each other as incompatible with one another. Scholars who advocate for power sharing have been accused of portraying gender as a meaningless political identity that does not excite individuals in the same way that ethnonationalism does. According to feminist theory, this kind of thinking benefits racialized elites at the expense of women and other oppressed groups by keeping them out of positions of power. This edited collection takes a different route, with contributors highlighting the positive connections that can be made between ethnopolitical power-sharing and gender inclusion while also acknowledging the gender gaps that are still there in power-sharing theory and practice. The authors focus mostly on three topics:

- There are 'gender silences' in our current systems of power distribution
- Gender activism and advocacy's effect on how power-sharing agreements are negotiated and implemented in conflict-torn communities
- Possibilities for advancing the agenda of women, peace, and security through shared decision-making
- Nationalism and Ethnic Politics issued a special issue containing the articles that make up this book

Misuse of user identities, improper access to data, and unlawful disclosure of data are the three basic categories of privacy protocols. Confidentiality of Data Users should be able to determine who has access to their data and how it is used and stored. In recent years laws like Europe's General Data Protection Regulation (GDPR) and America's Health Insurance Portability and Accountability Act (HIPAA) have sought

to protect individuals' right to personal data privacy and security. A global data privacy standard is a crucial step in protecting individual rights (Rustad and Koenig 365). Data ownership, confidentiality, permission systems, auditability, consent, notice of use, disclosure, authenticity, anonymization, retention, and access methods are the least concerning criteria for analyzing privacy and privacy-related measures. Users' information can be protected by data security measures.

Thus, data security is defined as the measures used to restrict access to a dataset to only those who have been granted permission to view it. It is possible to gauge the rigor with which data privacy rights are enforced by evaluating current data security measures. Concerns about data privacy extend beyond unauthorized use and data security. Multiple options exist for disseminating a user's health information to interested parties. One of the newest innovations that has started interfering with human life is Artificial intelligence. Artificial intelligence (AI) in its many forms is a driving force behind recent advancements in cyber defense. "What a joke! Poor little rich girl's fallen in love with the Republic's most famous criminal" (Lu, *Legend* 257), from the *Legend*, accurately suits AI intersections with women in contemporary times. To better comprehend the relationship between AI and these problems, security measures are built on a foundation of tools like platform complacency, intelligent trees, modeling techniques, and outage management systems. Marie Lu exemplifies these measures of privacy protocols. Emika Chen narrowly survived the Warcross Championships. Since discovering the truth about Hideo's new NeuroLink algorithm, she no longer regards her former hero as a friend or ally. Emika and the Phoenix Riders come together to put a stop to Hideo's gloomy plans, but they soon discover a new danger hiding in the neon streets of Tokyo. Someone has set a price on Emika's head, and Zero and his brutal Blackcoats are her only hope. Emika, however, finds out rather quickly that Zero isn't who he seems to be and that his shielding comes at a cost. As the future of individual choice hangs in the balance, how far will Emika go to bring down the man she loves?

Lu elucidates all these problems through her STEM/Tech narrative techniques. She wants to bring change and writes, "If you want to rebel, rebel from inside the system. That's much more powerful than rebelling outside the system" (Lu, *Legend* 236). She states the wishes of a girl in a digital world. Marie Lu's *Legend* is a narrative that encompasses elements of both a romantic tale and a narrative of retribution, with

a glimpse of a woman's condition in an educated society. It is the story of Day and June. The individual in question is referred to as Day. The individual who traverses illuminated pathways. The individual in question is identified as June. The young female protagonist endeavors to uncover the identity of her sibling's murderer. In a fortuitous encounter, the individuals coincidentally cross paths while in a state of fugitive concealment. Compelled by an undeniable force, both individuals remain unaware of each other's respective histories. However, Day was allegedly responsible for the demise of June's sibling. Furthermore, she has made a solemn vow to seek retribution for his demise. Additionally, it is found that a standardized test is given to all high school students in a totalitarian state. The two characters of the novel, June and Day, who are of different races, are the only ones to have ever gotten a perfect score on the exam. Instead, the republics concealed the true result of Day's performance by giving him a score so low as narrated by June:

Then something catches my eye. I sit up straighter. The document in front of me shows Day's Trial score. It's a scanned paper with a giant red stamp on it, very different from the bright blue stamp I'd seen on mine.

DANIEL ALTAN WINGSCORE: 674 / 1500 FAILED

Something about that number bothers me . . . 674? I've never heard of anyone scoring so low (Lu, *Legend* 180)

The reason why the republic misrepresented his score was that he was poor and marginalized. Also, they made June believe that Day was responsible for Metias' murder and that Day must be brought to justice. The neoliberal values of extraordinary individualism, competition, and meritocracy are all reflected in *Legend*. In addition, it shows a post-racial society because neither June nor Day sees their race (or gender or class) as a barrier to social interaction. This a real condition and predicament akin to the women's presentation in the age of technology, which is termed by Safiya as "technological redlining" (Noble 1). Let us observe the factors of psychological complexities in women.

#### **4.1 Technological Redlining**

The influence of algorithms in the period of neoliberalism and their role in perpetuating oppressive social dynamics and facilitating novel forms of racial profiling, referred to as technological redlining, are topics of discussion (Noble 1). Safiya defines technological redlining as how capital, race, and gender are elements in

producing unequal conditions. It occurs when algorithmically driven software gives biased outcomes in automated decision-making systems. Safiya's efforts shed light on the increasing prevalence of various forms of technology redlining by exposing the role played by capital, race, and gender in perpetuating unequal conditions. The widespread utilization of algorithmically driven software, which is employed in various forms and may or may not be apparent to the general public, necessitates a more thorough examination of the values that are given precedence in these automated decision-making systems. The practice of redlining is commonly observed within the realms of real estate and banking, leading to the exacerbation of racial disparities. This practice disproportionately affects individuals belonging to racial minority groups, such as Black or Latino populations, particularly those residing in low-income neighborhoods (Krimmel). Consequently, these individuals are more likely to encounter elevated interest rates or premiums solely based on their racial identity. Discrimination is inherent in computer code and artificial intelligence technologies, which are integral to our daily interactions with technology and the Internet, whether voluntarily or involuntarily.

Black feminists have mostly raised issues related to discrimination, misrepresentation, privacy protocols, and identity during Artificial Intelligence and the digital age. Black women are the victims of adverse roles that contemporary technology plays, specifically in areas like trolling, online harassment, algorithmic prejudice, and influencer culture, which are considered crucial topics of the current century. According to Catherine Knight Steele, the association between Black women and technology predates the emergence of platforms such as Twitter or Instagram. To effectively engage with the perspectives of Black women, Steele highlights the significance of examining the historical context of Black feminist techno culture inside the United States. This cultural movement has played a crucial role in challenging and dismantling the dominant forces of white supremacy and patriarchy, particularly in discussions about the path of technology. Catherine Knight Steele's *Digital Black Feminism* (2021) explores the multifaceted experiences of Black women in the virtual beauty shop, employing it as a metaphorical framework. The book delves into the technical proficiency, effective communication, and entrepreneurial prowess exhibited by Black women, which are rooted in their survival strategies and economic imperatives in both online and offline realms. By placing

Black women as the focal point of our discussions regarding the historical, contemporary, and future aspects of technology, Steele establishes a continuous connection from the literary works of Black women in the early 20th century to the bloggers and influential figures in social media in the 21st century. The author establishes correlations between the correspondences, news pieces, and essays authored by historical Black feminist writers, and a digital repository of blog posts, tweets, and Instagram stories contributed by contemporary renowned Black feminist writers. By examining the narratives and existing literature on the technology usage of Black women during the nineteenth, twentieth, and twenty-first centuries, the book *Digital Black Feminism* explores the intersection of historical and archival analysis with empirical internet studies. This interdisciplinary approach aims to bridge the gap between different fields and methodologies that have not traditionally engaged in dialogue with each other. In light of the increasing accessibility of Black feminist literature through online platforms, Steele presents a nuanced perspective that combines optimism with prudence over the consequences of Black feminism's digitalization. Kelly A Gates's *Our Biometric Future: Facial Recognition Technology and the Culture of Surveillance* question the privacy and security of people involved in Facial Recognition Technology (FRT). Since the 1960s, there has been a notable endeavor to program computers with the capability to visually perceive the human face. This pursuit involves the development of automated systems that can identify faces and discern unique characteristics among them. This technological advancement is usually referred to as FRT. Computer scientists are currently engaged in the development of FRT to create more intelligent and interactive machines. However, businesses and state agencies perceive this technology as particularly well-suited for "smart" surveillance purposes. These entities aim to utilize FRT systems to automate monitoring tasks, thereby enhancing their effectiveness and expanding their scope of operation.

In the analysis of technology advancements, the book *Our Biometric Future: Facial Recognition Technology and the Culture of Surveillance* highlights Facial Recognition Technology (FRT) as a prominent illustration of the inadequacies of a technocratic approach to government. This approach entails the pursuit of new technologies as simplistic remedies for intricate societal issues, ultimately failing. In her analysis, Kelly Gates presents evidence that the adoption of Facial Recognition

Technology (FRT) is primarily motivated by the interests of corporations, law enforcement, and state security agencies. Rather than enhancing security for a larger population, these entities prioritize the perceived necessity of FRT while disregarding its intricate and potentially harmful social implications. Gates supports her argument by examining various sources such as news stories, press releases, policy statements, and PR kits. The book *Our Biometric Future: Facial Recognition Technology and the Culture of Surveillance* asserts that the politics surrounding the development and implementation of these technologies highlight their uncertain and debatable nature, rather than suggesting an inevitable technical future. Judith K. Brodsky's *Dismantling the Patriarchy, Bit by Bit: Art, Feminism, and Digital Technology* is one of the best books on digital feminism, in which she asserts that the perception of technology as a predominantly male-dominated field has gained significant attention in recent years. The issue of 'Gamergate', a misogynistic online campaign for harassing females, involved doxing, rape threats, and death threats to female and minority game developers (Massanari 330). It has been the subject of considerable controversy and scrutiny. Nevertheless, similar to their male counterparts, female artists have also ventured into the realm of digital art. While there has been a proliferation of literature in recent years addressing the underrepresentation of women in the digital realm, this particular publication stands out as the inaugural examination of women's involvement with digital technology within the context of the art world. Judith Brodsky, a prominent player within the feminist art realm, meticulously records the artistic endeavors of women and transgender individuals who are revolutionizing the field of technology through the lens of feminist theory. The author posits that the artistic endeavors of female artists diverge from those of their male counterparts, as they strive to introduce concepts that have the potential to liberate technology from its heteronormative framework.

This literary work explores the transformative impact of feminist philosophy on technology via the lens of women and gender-variant digital artists. It highlights their noteworthy contributions to the aesthetic and execution of digital art, as well as their transformative impact on digital technology. The cohort of feminist artists of the 1960s and 1970s engaged in the reconfiguration of conventional art disciplines, actively exploring alternative artistic mediums to articulate the lived realities of women. When examining the historical intersection of digital technology

and art from a feminist perspective, it becomes evident that feminist art theory has significantly influenced the evolution of digital art creation. This influence has been instrumental in liberating digital technology from the constraints imposed by its patriarchal origins, ultimately transforming it into a universally accessible medium for perceiving and engaging with the world.

The feminist movement had significant development during the 1960s and 1970s, primarily led by women who identified as white, heterosexual, and lesbian. The fundamental objective of this movement was to establish gender equality by advocating for women's rights on par with those of men. Postcolonialism, queer theory, and critical race theory have acknowledged feminism as a social justice movement; however, have reconfigured it to encompass gender fluidity, race, power dynamics, and broader forms of oppression. The movement has evolved into an intersectional framework and is referred to as such in the present book. It challenges the patriarchal binary constructs of gender and seeks to rectify the historical omission of women digital artists. It provides comprehensive coverage of artists from diverse backgrounds and regions, encompassing a wide array of artistic disciplines such as video, animation, design, kinetic sculpture, 3-D computer modeling, painting, installation, performance, hypertext literature, virtual and augmented reality, and public art. The artists demonstrate a propensity for interdisciplinarity, effectively integrating sound and visual imagery in their work. They challenge the dichotomy between high art and popular visual culture by engaging in activities such as developing video games and collaborating with community organizations. Moreover, they adeptly utilize digital technology to provide a more personable form of communication. Rosemary Clark-Parsons' *Networked Feminism: How Digital Media Makers Transformed Gender Justice Movements* chronicles how activists have utilized media platforms to redefine the landscape of feminist politics and organization within the United States. Based on extensive experience in grassroots communities and careful observation of viral campaigns, Rosemary Clark-Parsons posits that feminists actively participate in a do-it-ourselves feminism, which is distinguished by the utilization of commonplace media technologies. In light of an election system and a historical record of collective organizing that have proven inadequate in addressing intricate systems of oppression, self-reliant feminists opt not to depend on political organizations, institutions, or authorities. In contrast, individuals employ digital

networks as a means to construct social movements that align with their ideological principles and effectively address the contemporary obstacles, while simultaneously managing the advantages and constraints inherent in their media technologies. This book illuminates the collective challenges and effective strategies of feminist media activists, emphasizing a practitioner-centered perspective. It underscores the significance of collective mobilization for social justice in the current context. The book *Feminism, Labour and Digital Media* advocates for the utilization of the insights provided by Marxist feminist theorists about the significance of home labor within the framework of capitalism. This approach allows for an examination of the contrasting forces at play within consumer labor. The utilization of the notion of the “Digital Housewife” is employed to elucidate the correlation between the tasks performed on the internet and the uncompensated domain of social reproduction. This study illustrates how feminist ideas contribute to the analysis of consumer labor within the realm of digital media. By doing so, the concept of the Digital Housewife repositions feminist inquiry from its marginalized position and positions it as a central component of critical analysis in the field of digital media. In *Bodies of Information*, the writer puts forth the nature of computerization of human behavior and its danger. She illustrates how NLP and AI are applied to replicate human creativity, and says that this occurrence is a direct consequence of one of the objectives of natural language processing software: to create algorithms and systems capable of emulating “human” language. In the present scenario, a nonhuman entity is assigned the responsibility of accomplishing a duty typically associated with humans.

Like how “artificial” intelligence is anticipated to imitate human cognition, but instead reproduces the cognitive patterns of white, Eurocentric males, natural language processing software actively contributes to the production of standard, socially accepted versions of humanity. The issue of universalism is a significant consideration in the creation of humanoid writings. The development of software and algorithms that mimic “human” processes has led to the recognition and validation of specific types of “human” characteristics. According to postcolonial researchers, the Enlightenment era was responsible for the emergence of a uniform conception of “humanity,” which prioritizes the European individual and consequently marginalizes those whose cultural practices, ways of life, and principles diverge from the universal standard. Postcolonial theory has significantly argued for the significance of the

specific, emphasizing that cultures, particularly those of colonized or formerly colonized societies, are excluded from universalist discourse. Noble foretells, therefore,

I believe that artificial intelligence will become a major human rights issue in the twenty-first century. We are only beginning to understand the long-term consequences of these decision-making tools in both masking and deepening social inequality (Noble 1)

One of what Noble calls “digital sense-making processes” is exemplified in Warcross and Wildcard. In both novels, the antagonist talks about “NeuroLink”. Emika Chen finds herself entangled in a complex network of deceit and treachery. Emika Chen narrowly escaped the perils of the Warcross Championships with her life intact. Upon gaining knowledge of the veracity surrounding Hideo's recently developed NeuroLink algorithm, the individual in question finds herself unable to place her trust in the sole individual she has consistently admired and believed to be an ally.

In their resolute endeavor to thwart Hideo's sinister intentions, Emika and the Phoenix Riders unite, only to discover the presence of an additional menace concealed amidst the illuminated thoroughfares of Tokyo. Emika finds herself in a precarious situation as an individual who has offered a monetary reward for her capture. Her prospects for survival are contingent upon the assistance of Zero and the Blackcoats, a formidable group known for their merciless tactics. However, Emika quickly discovers that Zero's true nature is more complex than initially perceived, and his safeguarding entails certain conditions that must be met. Hideo Tanaka created a virtual world that looks real when the glasses are on. To make this virtual world more interesting, he created a video game. The NeuroLink was designed by him, and after this creation, it made a huge impact in the market. Thousands to millions of copies were sold. Investors made incredible offers, and lawsuits over the patents flew. Many people criticized the influence that NeuroLink will create, which would change daily life, travel, medicine, the military, and education. Emika narrates further, justifying how “My dreams are plagued by our simulations.”

Warcross was pretty simple: two teams battled each other, one trying to take the other team's Artifact (a shiny gem) without losing their own. What made it spectacular were the virtual worlds the battles were set in, each one so realistic that putting on your glasses was like dropping you right into that place.

(Lu, *Warcross* 31)

She was obsessed with Warcross, Neurolink, and its creator, Hideo Tanaka, a fan of his wisdom and genius. But she was broken, and her faith deteriorated, forcing her to suffer from fever, fret, fear, bellyache, sleeplessness, and isolation. The truth was revealed when she found herself in a trap and involved in a project that was planned to control the human mind with AI tools. She asked Hideo what he intended to make Neurolink:

“You want to be a . . . dictator? You want to control everyone in the world?”

“Not me.” Hideo gives me the same piercing stare that I remember from our first meeting. “What if the dictator is an algorithm? A code? What if that code can force the world to be a better place, can stop wars with a single breath of text, can save lives with an automated system? The algorithm doesn’t have an ego. It doesn’t lust after power. It is programmed solely to do right, to be fair. It is the same as the laws that govern our society—except it can also enforce that law immediately, everywhere, all the time.” “But you control the algorithm.”

His eyes narrow slightly. “I do.” “No one chose you,” I snap.

“And have people been so great at choosing their leaders?” he snaps back.

“But you can’t do that! You’re taking away something that makes us fundamentally human!” (Lu, *Warcross* 341-42)

Knowing the true intention of Hideo Tanaka, Emika decides to leave, the person who has given her the opportunities to make her living, but using his position and power, he can give or take that position from her anytime he wants where no one will be able to question his decisions like in the case of algorithm and the NeuroLink. Hideo gave her so many memories. But she is in love with him; she contrasts him with Zero, who is a threat to her, and he decides to steal her memories. He did a privacy breach that Emika narrates:

Zero had destroyed the things that mattered most to me—my pieces of the past, my ornament and my father’s painting. My memories. Hideo is the one who gave me a way to even store those memories, who saved me from being thrown into the streets, who mourns his brother and loves his family and creates beautiful things.

Zero uses violence to further his cause. Hideo furthers his by preventing

violence. (Lu, *Warcross* 344)

This hiring process and exploitation allude to a statement that refers to a federal investigation into the purported ongoing wage disparity at Google, where women are consistently paid less than men within the company's workforce. In August 2017, a widely circulated document authored by James Damore, commonly referred to as Google's Ideological Echo Chamber, gained significant attention. This document received support from numerous Google employees and put forth arguments asserting that women are psychologically inferior and incapable of achieving the same level of proficiency in software engineering as men. These assertions are false and rooted in sexist beliefs (Kalina).

In Marie Lu's *Skyhunter* and *Steelstriker*, there is a clear reflection of the gendered world of technology. Redlen Arabes, commonly referred to as "Red," assumes the role of a *Skyhunter* and serves as the secondary protagonist inside the *Skyhunter*. The primary protagonist, Talin, has a light brown complexion and hair of such a dark hue that it appears to be blue. The individual possesses vibrant green eyes and exhibits remarkable agility and strength. She possesses exceptional intellectual abilities and demonstrates a resolute determination. Upon fleeing her place of residence, Basea experiences a loss of vocal capabilities due to exposure to toxic gas, necessitating her reliance on sign language as a means of communication. Despite being a striker, a position of considerable status, she is subjected to social exclusion. *Skyhunter* is a work of dystopian science fiction and fantasy literature, wherein the narrative is presented via the perspective of Talin Kanami, a young woman who has lost her ability to speak due to the scarring of her vocal cords caused by exposure to poison gas. Consequently, she relies on sign language as her primary means of communication. The narrative constructs a profoundly destructive and conflict-ridden environment, which emerges from the ruins of a highly developed civilization. The text examines the impacts of war, immigration, and empire on individuals and societies. As more information was acquired, the Karensa Federation, serving as the antagonist, gradually grew in familiarity. They hold the conviction that they possess the entitlement to govern overall and surpass the achievements of their predecessors, known as the Early Ones. The concept referred to as "Infinite Destiny" bears certain similarities to the notion of "Manifest Destiny" in the United States. *Steelstriker* serves as the conclusive installment of the *Skyhunter* duology, comprising the second and final

novel in the series. This account chronicles the downfall of the final remaining sovereign state on the globe. Amid hostile territory, Talin remains isolated. Talin, faced with the dispersion of her companions due to armed conflict and the captivity of her mother, finds herself compelled to acquiesce to the Federation's scientific investigations, thereby assuming the role of their most formidable instrument of warfare—an entity known as a Skyhunter. It reflects government manipulation, gender bias, and racial discrimination in the age of technology. The expression of anxiety and insecurity, misogynoir, intersectionality, respectability, discrimination, loss of privacy, and data leakage are caused by the consequences of hyper capitalism and digital imperialism, which consequently develop messy complexities in the psychology of women.

The concept of privacy has been largely overlooked in academic discourse despite its growing significance in the context of widespread social media usage, extensive surveillance practices, and the enduring nature of our digital presence. Despite significant shifts in the privacy environment, there is a notable lack of representation from social and personality psychology publications in discussions regarding the future of privacy. In contrast, there has been a significant increase in concern over privacy in areas like as computer science and media and communication studies, where direct involvement with sociotechnical advancements is prevalent.

In the present analysis of the interdisciplinary body of literature, we propose four specific topics that are of particular relevance to psychologists. The following concepts can be identified: an awareness of the variations in privacy preferences across individuals, an assertion that privacy is primarily rooted in social interactions, an assertion that privacy is essentially dependent on specific circumstances, and a proposal that privacy encompasses not just individuals but also psychological collectives. Furthermore, a theoretical framework is formulated that facilitates the advancement towards more comprehensive models of the psychology of privacy in the context of the digital era. Specifically, we argue for the necessity of adopting a perspective centered on group dynamics and social relationships while studying privacy.

The table (Table 2) explains the different dynamics with their implications through privacy behaviors and associated risks.

| S.No. | Level                    | Privacy Behaviors                                               | Privacy Risks                                                                                     |
|-------|--------------------------|-----------------------------------------------------------------|---------------------------------------------------------------------------------------------------|
| 1     | Cyber-physical           | The design of places or spaces, including digital spaces        | Risk when information crosses between environments                                                |
| 2     | Social context           | Understanding of the human context                              | Risk occurs when information crosses between various social networks or reveals secrets to people |
| 3     | Technical infrastructure | Non-interactive infrastructure and architecture of environments | Risks when information flows due to unconfigurable technology design                              |

Table 1. Privacy Behaviors and Privacy Risks

Privacy is universally acknowledged as a fundamental human right by the United Nations, yet it has been characterized as a malleable and elusive notion. Conventional conceptualizations of privacy presuppose an individualistic entitlement to non-interference. According to Margulis (1977), the concept of selective control pertains to the regulation of interactions between oneself or one's group and external entities, with the primary objective of increasing autonomy and reducing susceptibility. Individuals require a certain level of autonomy in their interpersonal interactions to attain a sense of well-being that is linked to closeness and emotional catharsis.

Furthermore, the preservation of privacy is essential in safeguarding the fundamental rights of freedom of speech, freedom of association, and freedom from inequity and dominance. Table 1 presents privacy mechanisms, privacy management, and risks. A person's sense of control over their private data is part of their interpersonal privacy identity. The expression of one's privacy is tied to the disclosure of personal information within social interactions. Individual, interactional, and contextual privacy are the three tiers, or domains of privacy. They are all managed by the interplay between the cyberphysical world, society, and technology. If it fails, it causes psychological complexities leading to incurable loss of a woman.

#### 4.2 NeuroLink: Privacy Predator

Privacy is a very concerning factor for a woman. It is basically about the amount of private information about women that is secured. Although firms, government

organizations, and medical institutions claim that private data is safe in their hands, the powerful can get access to any private data. The corporations always place their goals ahead of those whom they serve. According to Charles Duhigg's report, "How Companies Learn Your Secrets," data and privacy can be accessed by corporations to support their business. Duhigg explained how Andrew Pole, a data scientist who was working for Target, was approached by his colleagues: "If we wanted to figure out if a customer is pregnant, even if she didn't want us to know, can you do that?" (Duhigg 421). This is invasion of privacy that occurs when someone breaches the private information and data of an individual and uses it for illicit purposes.

NeuroLink plays a pivotal role in the lives of the characters, a neural interface that allows them to access the Warcross directly through their minds. It is used to access information and is linked with a wide range of information, apart from gaming. The addictive nature of Warcross makes people dependent, and it becomes impossible for them to disconnect from the virtual world. He created something that has the finest features, "best brain-computer interface ever built. A pair of sleek glasses. The NeuroLink" (Lu, *Warcross* 31). NeuroLink makes things different and colorful by changing normal things and giving them a decorative appearance. Emika narrates: "If I were wearing NeuroLink glasses right now, I bet these banners would be animated" (Lu, *Warcross* 83). Emika, in one of the meetings with Hideo, came to know about the hidden agenda of NeuroLink, where Hideo explained to her what prospects NeuroLink will bring. Hideo narrates:

"We are always searching for a way to improve our lives with machines," Hideo says. "With data. For a while now, I've been working on developing the perfect artificial intelligence, an algorithm that, when implemented through the NeuroLink, can fix our flaws better than any human police force" (Lu, *Warcross* 338)

Hideo revealed his intentions related to NeuroLink and what it can do. He showed her a screen with an oval of colors of green, blue, yellow, and purple appeared on the screen which explained that he can look inside the mind of a NeuroLink user. He can see into the thoughts of the users. "*Hideo's invention uses the world's best 3-D effects generator—your own brain—to create for you the most incredible illusion of reality ever*" (Lu, *Warcross* 339). The control NeuroLink can have over the mind of the user and can "Fix our flaws" (Lu, *Warcross* 338), a statement given by the game creator, at

the same time, neglecting the privacy issues of everyone related to it. This is a privacy breach; if the algorithm encounters any kind of error, it can frame someone as a criminal. It can mislead and give a false idea of some information that can lead to issues of security. It is an algorithm created by a human with some default settings to categorize things according to the criteria of good and bad. But how does the creator know what is just and good for the betterment of the people? The creator of NeuroLink and The Warcross explained the control NeuroLink can get, which surprised Emika: “You want to be a . . . dictator? You want to control everyone in the world?” (Lu, *Warcross* 341). To her surprise, she imagines a thousand things he can do after gaining complete access to the user’s life with some codes and algorithms. Every single detail he added was a neglect of human rights, and Emika was against it. The ways he adopted were mean, and he provided a logical backup for every theory he framed on how this control can help people by keeping a check on the crimes with the help of these algorithms, which, according to him, will replace human police. The main question that was still pertinent was “Who will control the algorithm?”. Emika kept on reminding him about how he is taking everything that makes a person fundamentally human. Her concern was just to keep Hideo’s ambition from hurting others’ privacy, which she argued till the end. Later, she walked away, rejecting his proposal to be on his side. Here, the discrimination and misrepresentation are done through the algorithm. But the broader concern was of privacy; with NeuroLink, the privacy of thousands of people, particularly women, was hampered. People started committing suicide after being influenced.

The game Warcross has experienced hackers. Zero is the enigmatic one who has come to challenge the creator of the game. He was like a ghost, and no one could access his account. He has created so many bogus profiles to avoid being discovered by those attempting to find him. Emika discovered his profile and encountered the false information that he had given in the form of so many fake profiles that appeared normal to her.

How is this possible? I think back to the opening ceremony party, when I’d confronted him and Max Martin, when he’d sneered at me. His data had looked perfectly normal, disguised to be indistinguishable from an average player’s—I hadn’t even seen any shields installed to protect his info. He had probably set up an entire, elaborate system of false info to throw off anyone who tried to get

to him. He'd likely been studying me, too. He'd been right in front of me, and I'd missed him entirely... (Lu, *Warcross* 306)

After discovering the shield he has been hiding under, he started digging deeper to get the truth. She, being a hacker, used codes to unleash his true identity. What she discovered was a shocking revelation: "I saw him glitch into view," I finish, "during the final moment when we all felt that static shock. It's the first time I've ever seen any data about him." Even after getting to know his actual identity, she was skeptical to reveal it" (Lu, *Warcross* 349). Because she is afraid of losing her privacy. She was scared because she felt that it would come back to haunt her and become a reason to hamper her security and privacy, and lead to issues of discrimination, which later can be used against her to make her do what she has always opposed. She was aware of what these powerful people could do with her if she opened her mouth. Despite all the odds, she managed to expose the real identity of the hacker named "Zero". All of his data has been exposed" (Lu, *Warcross* 349). She exposed him in the final Warcross championship, which infuriated him. He stole her memories, which is an invasion of privacy. Emika narrates:

He just stares calmly at me. *Check your Memories*. My Memory Worlds.

Suddenly, my heart seizes. I type a quick command and bring up a window to search for my Memory Worlds, all the carefully compartmentalized pieces of my father that I spend so much time revisiting. No. Please. When they come up, I freeze.

The files are blank. The option New Memory World hovers over them (Lu, *Warcross* 288)

Zero stole her memories, then returned them to show his masculine power over a female, wherein he tried to buy her silence by providing her with an offer to work under him. Memory theft, which Zero did, was a powerful portrayal. The privileged one in terms of capital, status, and gender has no concern about playing with the sentiments and privacy of others; they enjoy living at the center where they can control everyone like a puppet and use them according to their needs and requirements, and dump them when they are done with whatever they want from them. Here, the powerful are the ones who are technically advanced and have a name in the field.

The sequel to the novel *Warcross* (2017), titled *Wildcard* (2018), presents a more profound depiction of the detrimental consequences of NeuroLink. The novel

*Wildcard* (2018) elucidated the extent of NeuroLink's influence over the minds of those who are using contact lenses. Based on Tremaine's findings, an acquaintance of Emika and a participant in a Warcross, statistical data about the adoption of new glasses reveals that approximately "Ninety-eight percent" (Lu, *Wildcard* 15) of individuals have succumbed to a state of subjugation. The impact of the recently enhanced beta lenses can be seen on the streets where a huge crowd is standing in a queue outside the police station to report their crimes. Emika narrates:

I slow down to stare at the long line wrapping around a local police station. There must be hundreds of people. They're all turning themselves in to the authorities for anything and everything unlawful they've ever done, from unpaid parking tickets to petty theft—even murder. It's been like this for the past three days. (Lu, *Wildcard* 8)

Criminals engaged in various unlawful acts are presently voluntarily submitting themselves to authorities. A significant number of individuals associated with the algorithm are now committing suicides because of the guilt they have in their minds: "Suicides like this have been peppering the news" (Lu, *Wildcard* 8). The horror outside the police station is scary, Emika narrates, "I swallow my unease and turn away. There's a subtle but significant blankness in everyone's eyes. They don't know an artificial hand is inside their minds, bending their free will. *Hideo's* hand" (Lu, *Wildcard* 8). A limited number of individuals remain unaffected by the transition to the new lenses, comprising those who have not switched to the new lenses, with a few who are in the dark world and the ones who are not using these lenses at all. Even the old lenses will also get linked with the algorithm after the Warcross closing ceremony. The algorithm can even control any head of state, Hideo can control if he wants to, Emika says, "If he wanted to, he could control the US president with a single command from the algorithm. He could give orders to every head of state of every developed nation, of every country in the world. Anyone who has used the NeuroLink" (Lu, *Wildcard* 107). The NeuroLink has a significant impact in that it results in individuals being subjected to control without their voluntary consent.

All these incidents related to suicide attempts, suicidal deaths, and a long queue outside the police station make it evident that people are under the control of the algorithm, but still, the creator of the game is claiming that the algorithm is unbiased. The control that the algorithm has on the minds of the people associated with it,

particularly females, is unimaginable and just a command away. Emika narrates, “But that can also be used the other way—type in a command and use that to tell the brain what to do. Type in enough commands, and the brain can be permanently controlled. And Hideo has created an entire algorithm to do this” (Lu, *Wildcard* 339). It can devalue privacy and can lead to psychological complexities. It is in no way unbiased, and Mari confirmed that. In one of the meetings with Hideo, Mari is seen as convinced that algorithms are causing these suicides. In that meeting, one of the members, Kenn, is also seen opposing Mari; he says, “Suicides can be caused by anything” (Lu, *Wildcard* 104). Mari is seen telling them to check whether the algorithm is causing such issues or not and reminding the two of them about the true purpose for which this algorithm was created. She narrates, “It’s not supposed to be responsible for users taking their lives” (Lu, *Wildcard* 105). She further puts her argument by saying:

Look at these numbers! Mari waves a hand, bringing up a graph to hover before the three of them ... The graph’s curve looks exponential, sweeping ominously up. The number of suicides worldwide started trending up the day after the algorithm’s deployment. These aren’t all people with criminal backgrounds. (Lu, *Wildcard* 10)

Even after Mari explained how the suicide rate increased after the algorithm came into being, both Hideo and Kenn seemed unaffected. They do not even care to pause the algorithm there by telling her, Hideo says, “But the algorithm will stay running. We’re not going to pause it” (Lu, *Wildcard* 107). The information offered by Mari appears to have no impact, suggesting a potential lack of understanding regarding the consequences already caused by the algorithm. This lack of comprehension is seen in the individuals in power who fail to understand the harm they are doing to society because they are the privileged and protected ones.

Westin in *Privacy and Freedom* (1970) says that stressors like worries about privacy are significant and can lead to undesirable outcomes like irritability. Constant self-exposure, which is what drives social media, makes concerns about privacy unpleasant. The psychological intricacies arise as a consequence of the stress induced by emerging information technologies, while privacy worries are strongly intertwined with psychological conditions such as perceived unhappiness or feelings of insecurity. The Cambridge Analytica incident serves as a prime example of the contemporary issue around privacy. It highlights the seemingly casual attitudes towards sharing

personal information online, the fleeting nature of worries regarding data exploitation, and the significant yet challenging-to-measure impacts on both individuals and society. The data was obtained using a mobile application known as "This Is Your Digital Life," which was created by Aleksandr Kogan, a data scientist, and his company Global Science Research in the year 2013. The application comprised a sequence of inquiries aimed at constructing psychological profiles of individuals, while simultaneously gathering personal information of the Facebook friends of users through the utilization of Facebook's Open Graph platform. The application collected the data from a maximum of 87 million Facebook profiles. The utilization of data by Cambridge Analytica involved the provision of analytical support to the presidential campaigns of Ted Cruz and Donald Trump during the 2016 election. The media coverage of the Facebook-Cambridge Analytica data controversy was further amplified with the release of a documentary titled "The Great Hack" on Netflix in 2019. This media production represents the inaugural feature-length work that effectively integrates the diverse components of the scandal into a cohesive narrative structure. The documentary offers an in-depth analysis of the contextual information and series of occurrences about Cambridge Analytica, Facebook, and the 2016 election, which ultimately culminated in the wide-reaching data scandal. The documentary film "The Great Hack" effectively conveys the many experiences and personal narratives of various persons who were implicated in the event, each with their unique roles and connections. The aforementioned individuals include David Carroll, Brittany Kaiser, and others. David Carroll, a professor based in New York specializing in media studies, endeavored to engage with the legal system to uncover the extent of personal data held by Cambridge Analytica about his profile. Brittany Kaiser, a former employee of Cambridge Analytica, subsequently assumed the role of a whistleblower concerning the data controversy. There has been a rise in firms specializing in data monetization, and politicians have begun integrating the concept of data monetization or "data dividends" into their policy agendas. Furthermore, it has also facilitated the occurrence of data breaches.

### **4.3 Surveillance-Induced anxiety**

*Wildcard* (2018) started with the lines "Someone is watching me" (Lu, *Wildcard* 7). These lines describe the paranoid state of Emika, where she has the fear that someone is following her in the streets of Tokyo. These disturbing thoughts have

created psychological complexity in her mind. A state where different thoughts, traumas, and memories are connected in a complicated way. She is even disturbed by the sounds coming from the droplets of water “It sounds like someone else’s footsteps. The feeling of being watched has returned” (Lu, *Wildcard* 22). She becomes psychologically paranoid, which can be characterized by intense fears and suspicions of others. People experiencing paranoia often believe that others intend harm, or that they are being watched or monitored. She feels that she will be killed for what she has uncovered about the algorithm, NeuroLink, and new beta contact lenses. All these things have taken control of her mind she is paranoid of being observed and watched.

... and every distant footstep sounds like it’s headed toward me. Is he here? Has he been the one watching me? I half expect to see a familiar figure walking behind me, his body encased in fitted armor, his face hidden underneath that opaque black helmet. (Lu, *Wildcard* 24)

Hideo and Zero are the only possible threats to her life because one has shared how the algorithm for NeuroLink will work after its upgradation and the other wanted her to join his team and work for him. With no contact with Hideo, Zero is still contacting her because he has harmed her in so many ways. In one incident, “He once stole my father’s memories” (Lu, *Wildcard* 25). This made her wary of him, but more dangers were lurking in the streets of Tokyo, which Zero reminded Emika of. The dangers that are perpetuating in the Dark world. Zero reminded her of those dangers, “Then you haven’t been in the Dark World lately” (Lu, *Wildcard* 25). He showed her the view of Pirate Den, where the screen displayed the assassination lottery, which made her believe that she had landed herself in troubling circumstances.

My gaze runs up the list. Some names are familiar ones – gang lords and mob bosses, politicians and a few celebrities. But then – There I am. Emika Chen. I’m at the top, and beside my name is a reward sum for five million notes. Five million notes for my death. (Lu, *Wildcard* 26)

This discovery made Emika even more disturbed, a situation where Zero is taking every chance to create a frenzy in which she will submit to her thinking that she has no escape, his plan seems to be successful. Emika is now running for her survival because two assassins have already started to chase her in the middle of Kabukicho Street. This assassination attempt made her believe that this was not her paranoia after all. It was all a planned attempt to either kill her or push her to submit to what others wanted from

her. Emika narrates:

A shot rings out behind me, whizzing narrowly past my neck to chip the wall at an angle. A bullet. A *gunshot*. A sudden wave of terror sweeps over me... A second gunshots rings out... I've heard gunshots before – but the sheer intensity of this moment is new. I was never the target. (Lu, *wildcard* 27)

She has become the target, but isn't aware of who is targeting her, or what benefit they will get from killing her. Meanwhile, all the dots started connecting with Zero's messages started to make sense when he warned her with an update on what awaited her. He gave her instructions to get her to a safe spot. He texted, "You're wasting time. Turn right at the next intersection. Head into the mall and go down to the basement floor. There's a car waiting for you on the opposite street" (Lu, *Wildcard* 27). The safety he provides comes at the expense of working with him.

As per his instructions, she started following a girl named Jax, an accomplice of Zero. Jax is leading her to safely reach the car, while Emika opens the question box and starts putting questions that are bothering her about why people want to assassinate her and what benefit they will get after that. Jax replied patiently and cautiously because she had to rescue her simultaneously. She explained:

People think everything that's gone wrong in the games this year is because of your hack of the opening ceremony game and your fling with Hideo. Rumor's that you're also the one responsible for installing the cheat in the Final, as a rebellion against being kicked off your team. (Lu *Wildcard* 35)

Emika is not convinced of the reason Jax is providing her but she doesn't trust her as well. Meanwhile, Jax manages to take Emika out safely but as per the protocols provided by Zero, she knocks Emika out so that Emika can't see where they are taking her. She is taking her because she was of use to them, the black coats after she drugged her against her will. Emika is lying like a lifeless body where she is not in a condition to control herself, Jax drugged and dragged her against her will as Emika says, "*I've been drugged*" (Lu, *Wildcard* 39). Jax took her to a hotel in the Omotesando district where Zero and the team Blackcoats were waiting for her.

The elements of psychological tension were also evident through June and other female characters in the *Legend* series. Furthermore, these factors are related to the tracking devices that are in the form of sensors in the gun, the ability of a hacker who got her killed, or a medic who is also under the stress and turmoil of getting trapped

and tortured by the forces of oppression. Day explained how the stressful situation has made June lose her charm and energy. He says, “I look at her. Still as lovely as ever, but even June is starting to show the stress from this invasion, her shoulders slightly hunched. My eyes turn back to Anden. “Surrender,” I say” (Lu, *Rebel* 144). Even though the situation was in control, the impact it had on her mind made her stressed.

The fear that something might happen someday because you are a female even haunted June’s brother, Metias; he was worried because he knew the system and how it had worked. Even though June was studying at a reputed university but something still haunts her brother. Day narrates, “No matter how sharp my intuition is, no matter how well I do at Drake or how perfectly I score in defense and target practice and hand-to-hand combat, Metias’s eyes always hold that fear. He’s afraid something might happen to me one day— like the car crash that took our parents. That fear never leaves his face. And Thomas knows it” (Lu, *Legend* 19).

Furthermore, the fear Metias had come true when June contracted the virus, despite being vaccinated; this plague was spread by the Republic. What she witnessed as she narrated were the “... classic signs of an oncoming illness, I think darkly. Maybe it’s the plague. The irony of that sends a hint of sadness—and fear—through me. But I’m vaccinated. It’s probably just a cold —after all, Metias had always said I was a little sensitive to changes in weather” (Lu, *Prodigy* 169). The fear and anxiety that came with the thought that she had contracted the illness made a psychological impact on her mind.

The impact of NeuroLink on the minds of its users. It made them confess whatever petty crime they had committed so far. It has also given them stress and anxiety, as they were not able to resist the controlling signals that were associated with their brain functioning. Emika was shocked to see the affected people and how they turned themselves over to the police authorities. Some of the remaining ones committed suicide because they were not able to comprehend what they did, and that guilt and stress made them do that. Emika narrates, “I slow down to stare at the long line wrapping around a local police station. There must be hundreds of people. They’re all turning themselves in to the authorities for anything and everything unlawful they’ve ever done, from unpaid parking tickets to petty theft—even murder. It’s been like this for the past three days” (Lu, *Wildcard* 8).

#### **4.4 The Politics of Body as Data**

In Lu's dystopian Republic, identity is not a private entity; it is digitized, stored, and weaponized by state databases. For Day and Tess, fingerprints equal exposure, and their bodies are the data points in the state-controlled surveillance. This aligns with D'Ignazio and Klein's principle to "examine power" (D'Ignazio and Klein 17). The Republic's biometric systems target marginalized subjects while claiming neutrality.

Tess's body is described as delicate, a marker of vulnerability within patriarchal surveillance structures. There is a contrast in Tess and Day's experiences, where Day fears being caught while Tess's survival is dependent on invisibility and agility, revealing how women navigate gendered surveillance differently.

Tess is down there with them, her delicate frame nearly lost in the shuffle, with a pouch of our money and a smile on her face. I watch as she listens to other gamblers discuss the fighters. She asks them a few questions of her own. I don't dare take my eyes off her. Street police who are unhappy with their bribes sometimes break up Skiz fights, arresting people as they go, and as a result, I never stand with the crowd when Tess and I watch the fights. If they catch me and fingerprint me, it's over for both of us. Tess, though, is slender and wily. She can escape a raid much more easily than I can. But that doesn't mean I'll leave her on her own. (Lu, *Legend* 98)

This act of fingerprinting becomes a symbolic loss of bodily agency. Showalter's biological model in gynocriticism can be extended here; Tess's female body became a text of control, read and interpreted through state technologies rather than her own voice.

#### **4.5 Conclusion**

This Psychological control and anxiety under surveillance of male-dominated corporations and algorithms is explored from the psychological and social aspects of Showalter, where the emotional toll of data exposure and digital inequalities are interpreted by a data feminist perspective to highlight the tension faced by women in the technological realm. This interpretation is vividly portrayed by Marie Lu in her dystopian world of technology, which is uncontrollable. Due to tech-dystopianism and AI hyperrealities, women's privacy, freedom, and trust are challenged; consequently, psychological complexities seem irresistible. Marie Lu highlights this issue with her STEM fiction *Warcross* series, *Skyhunter* and *Steelstriker*, and romantic novels like *Legend*, *Prodigy*, and *Champion*.

## **Chapter 5**

### **Data Feminism and Data Violence**

Discrimination, privacy protocols, and psychological complexities in women are connected to data violence. As discussed in the previous chapter, Data feminism tries to confront the power and privilege in the world of data (Lee et al. 1096). The word "data" was adopted in the mid-seventeenth century to enhance existing concepts such as proof and fact. However, it is necessary to analyze what information needs to become data before it can be trusted and what information needs to become data before it can be accepted as truth and acted upon (Charikar). According to The Britannica dictionary, the word "data" means any information that is used to calculate, analyze, or plan something, and the word "feminism" is the organized activity that supports women's rights and interests. Hence, the word data feminism is used to control any information as a cultural, psychological, social, and lingual identity that involves the interests of women. Data Feminism is an "inclusive framework that involves fair data practices thereby focusing on various human experiences". This data is considered neutral, but in reality, it is not neutral; biases impact it, and it has assumptions about people. It can favor certain people, whereas it can also ignore others.

The chapter delineated that data has a profound impact; it can influence people in the cyber realm, thereby influencing how they interact and make decisions. It allows companies to create customized experiences, and it uses data to direct targeted advertisements. Despite its influences and impacts on the individual, it leads to the loss of privacy where personal data is collected without consent. Governments and organizations can use the data collected to monitor citizens in the name of security. It can also lead to data breaches where personal data can be used to exploit an individual for financial gain and malicious intent. Also, data can be stolen, causing emotional distress and long-term damage to the individual.

Cyber and data violence presents a landscape where technology, which is used as a tool for connection and empowerment, has now become a vehicle for harming people, especially women. Figure 1 represents cyber data violence and its types. According to the Oxford Advanced Learner's Dictionary, the word "cyber" means connected to electronic communication networks, especially the Internet ("Cyber"). The term cyber dates back to the field of cybernetics, which consisted of specialists in fields ranging from biology to engineering to social sciences. Cyber and data violence against women and girls is a growing issue in the digital age, targeting individuals based on their gender. This includes stalking, doxing, cyberbullying, and non-

consensual posting of personal pictures. As more people spend time online for work, education, and socializing, the incidence of online gender-based harassment has increased.

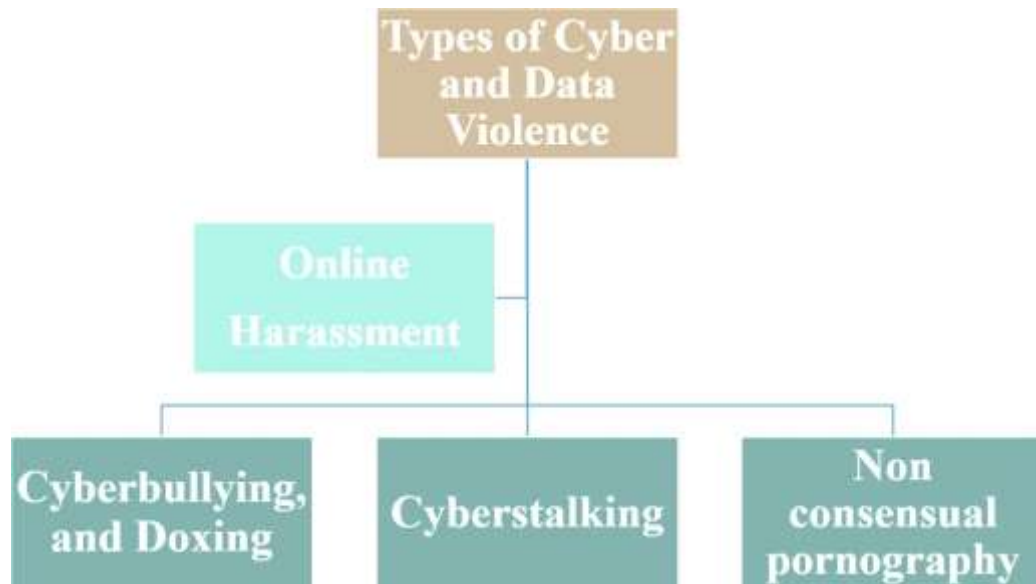


Fig. 3. Types of Cyber and Data Violence

This chapter attempts to fill methodological and conceptual gaps to study Marie Lu's *Warcross* and *Legend* series for modeling data feminism as a research method, a deep learning system to prevent cyber and data violence against women and girls (CDVAWG). Furthermore, it questions the psychological, emotional, and physical impacts of cyber and data abuse on women and girls. It also calls for the need for programs to detect violence and react to it and how it leads to legal and regulatory implications.

Cyber and data violence is a threat to women's and girls' privacy, which is a result of gender inequality, discrimination, systemic prejudices, and limited awareness about digital safety. Technology and social media platforms exacerbate these challenges (Pachauri and Verma). A recent report by the United Nations Economic and Social Commission of Asia and the Pacific (ESCAP), highlighted how the prevalence of sexual cyber-crimes against women contributes to the widening of the digital divide in accessing internet accessibility. In 2020, global internet access rates were 58.3 percent for men compared to 48.4 percent for women. In Asia, these figures stood at 54.6 percent for men and 41.3 percent for women (ESCAP) (Faure).

The National Commission for Women (NCW) has revealed that 98 percent of

reported cybercrimes target women. Furthermore, the Council of Europe study found that 58 percent of girls experience online harassment, with half reporting that online harassment is more frequent than street harassment. and 50 percent said they experience more online harassment than street harassment. Amnesty International's 2017 survey revealed that 46 percent of women who faced online abuse or harassment identified it as misogynistic or sexist, and 36 percent of women in the UK reported feeling physically threatened due to online harassment (Amnesty International). Similarly, a European Union Fundamental Rights Survey reported that 20 percent of young women in the European Union have experienced some form of cyber sexual harassment (European Union Agency).

While India's *Information Technology Act of 2000* was a pioneering step in addressing cybercrime, its provisions are insufficient, as no legislative framework exists to combat gendered cyber violence. Addressing this issue requires prevention strategies, including awareness among people about tackling cyber threats, getting a proper education, and supporting the victims. Despite current policy efforts, the problem remains persistent.

A potential solution could involve deploying a deep learning system rooted in a data feminist framework, which prioritizes understanding and mitigating gendered digital violence. Drawing on the narrative and themes in Marie Lu's *Warcross* and *Legend* series, this model could provide actionable insights into preventing cyber and data violence against women and girls.

Data and Algorithms play a crucial role in decision-making on digital platforms because algorithms require a huge amount of data to function, including location, browsing history, gender, etc. The chapter illustrates how the protagonist Emika Chen in *Warcross* provides a rich example of how data and algorithms intertwine with privacy, location, browsing, identity, and surveillance. She lives in a society that is dominated by male-centric virtual reality in the guise of a Warcross game, where daily life is shaped by algorithm-driven systems and data manipulation. This game has made privacy nearly impossible, where every action is visible and recorded with the prominence of NeuroLink, an algorithm designed by Hideo Tanaka to anticipate and influence human behavior, which goes to the extent of controlling their minds as well as something that is unsettling and has privacy-related issues. The previous chapter has already illustrated this in its findings.

### **5.1 Data Feminism and Cyber and Data Violence against Women and Girls (CDVWG)**

Data feminism is a framework that aims to address the convergence of data science and feminist thought. It recognizes the power dynamics at play in data collecting, processing, and interpretation and strives to question and disrupt these systems (D'Ignazio and F. Klein). The concept of cyber and data violence against women and girls is closely connected to data feminism, as both of them highlight the potential harms and biases that are embedded in data practices ("Cybersafe"). Attril defines cyber violence as accessing and distributing injurious, hurtful, or dangerous materials online to cause emotional, psychological, or physical harm (136-37), whereas data violence is a term that describes the harmful outcomes that can result from gathering data and using algorithms to interpret it (Hoffmann; "Cybersafe"). They intersect with each other to highlight the power imbalances that are there during the collection of data, it also stresses the influence of human biases as these biases reflect patriarchal dominance. Similarly, cyber and data violence is a result of power imbalances perpetuated by patriarchal structures. For instance, social media algorithms may amplify stereotypes and abusive content which further harms women who are from marginalized backgrounds. Furthermore, both data feminism and cyber and data violence against (Dowrick 6) women and girls stress that data is not a neutral entity and that biases are there in data collection, curation, and algorithms where it often perpetuates the interests of people in power (O'Neil).

Data feminism prioritizes the perspectives of marginalized communities, especially women. It involves the inclusion of those data practices where data is transformed from a tool of control to a tool of empowerment which means developing tools, algorithms, and reporting systems that care for the privacy and security of women and marginalized communities when applied to cyber and data violence. According to the research ("Cyber Violence against Women and Girls"), it is determined that the increasing prevalence of cyber violence targeting women is due to the insufficiency of security protocols implemented by digital platforms (Dowrick 6). Additionally, transparency and accountability in data practices play a crucial role in tackling cyber and data violence against women, although many platforms are opaque about how they handle data related to harassment. They don't disclose their algorithms and how they make decisions, this lack of transparency in data processes often ignores the needs of

vulnerable groups (D'Ignazio and F. Klein). Data feminism guarantees that platforms are held accountable for their handling of information about violence, abuse, and harassment. It also questions the superficial security protocols that ignore the problems of underprivileged groups. It focuses on solutions, including content warnings, that are not created with the opinions of those who would be most affected, resulting in ineffective protection. The policies of most of the platforms fail to address the root cause of online violence, they rely on generic security measures rather than data-driven solutions based on the experiences of marginalized communities (Powell and Henry).

Cyber and data violence against women and girls encompasses a range of online abuses (Dowrick 6) rooted in gender discrimination, including stalking, doxing, cyberbullying, and the non-consensual sharing of personal images (West). This phenomenon fits into a broader historical trajectory in which new channels for committing gender-based violence were made possible by the emergence of social media, online forums, and digital communication tools. Online spaces are being abused and used as weapons against women and girls, leading to an increase in gender-based violence ("Technology-Facilitated Gender-Based Violence: A Growing Threat"). This issue was unrecognized earlier but has become increasingly visible as more people spend time online for work, socialization, education, etc. As technology advances so are the strategies used in online violence. The proliferation of tools available to intimidate, harass, and threaten women also gave rise to the issues of doxing, cyberstalking, cyberbullying, and the non-consensual sharing of personal images. According to Britannica, "doxing" is "the act of exposing private information about an individual or group, usually online, without the person's or group's consent." Doxing is a form of cyberbullying where personal information on others is sought and released (Chen et al.). It violates privacy thereby facilitating further harassment (Chen et al.). This invasion of privacy makes women vulnerable. Women experience a great deal of abuse, particularly in the form of online harassment, non-consensual image sharing, and blackmail. This abuse is frequently caused by patriarchal ideals and prevailing cultural standards that view women's online visibility as inherently provocative (Jabr).

Online harassment and cyberbullying represent significant forms of digital violence that can profoundly impact victims. Online harassment, in particular, involves threats and malicious actions facilitated by technology within the digital environment. It can be conceptualized as "the intentional behavior aimed at harming another person

or persons through computers, cell phones, and other electronic devices, and perceived as aversive by the victim” (Schoffstall and Cohen 588). Duggan lists the following five categories of online harassment: being called derogatory names, receiving physical threats, experiencing persistent harassment, stalking, being purposely embarrassed, and experiencing sexual harassment. It entails sending threatening or abusive communications (Halder and K. Jaishankar), whereas cyberbullying often involves frequent harassment or humiliation of a person via social media or other digital channels. Nocentini categorized cyberbullying behavior into four different forms: written-verbal, visual, exclusion, and impersonation (132). Both sorts of violence may lead to mental discomfort, anxiety, and even physical injury for those targeted. People must understand these behaviors and take actions to avoid and resolve them to create a more pleasant online environment for all users (Halder and K. Jaishankar). Nonconsensual pornography is when the perpetrator publishes sexually graphic images and photos without consent. The images may have been originally obtained non-consensually, such as by hacking social media accounts and cloud accounts or by using a hidden camera to record sexual assault acts (Burnett). According to Franks:

Nonconsensual pornography involves the distribution of sexually graphic images originally obtained without consent (e.g., hidden recordings or recordings of sexual assaults) as well as images originally obtained with consent, usually within the context of a private or confidential relationship (e.g., images consensually given to an intimate partner who later distributes them without consent, popularly referred to as “revenge porn”) (346)

This malevolent conduct may result in reputational harm, mental suffering, and even legal ramifications for persons whose private photographs are disseminated without their permission. It is vital for people to recognize the significant ramifications of sharing personal pictures without permission and to actively strive towards building a culture of respect and consent online. By speaking up against destructive behaviors like revenge porn can help safeguard people from the detrimental impacts of online violence and promote a safer and more supportive digital community for everyone (Halder and K. Jaishankar). Furthermore, Online stalking and monitoring are also major issues and can have severe effects on victims. These activities may lead to a loss of privacy, feelings of dread and violation, and even bodily injury in severe circumstances. High-profile cyber and data violence cases serve as crucial reminders of the potential hazards

that exist in the digital world. For example, the Equifax data breach in 2017 jeopardized the personal information of millions of people, underlining the necessity for comprehensive cybersecurity measures. Similarly, the Ashley Madison attack in 2015 emphasized the risks of online platforms and the significance of preserving sensitive data. By examining these incidents and learning from previous failures it is important to make people aware of the future dangers thereby increasing a better defense against cyber assaults.

Laws and regulations addressing cyber and data violence against women and girls vary worldwide, but there are gaps in enforcement, as the technology is rapidly evolving and new forms of online abuse. Many countries, including the United States, the European Union, India, Australia, Canada, New Zealand, and South Africa, have introduced targeted regulations (Reddy). For instance, the *Violence Against Women Act (VAWA)* in the U.S. addresses crimes like intimate partner violence, dating violence, sexual assault, and stalking (Sacco) (“Violence Against Women Act”). Similarly, nonconsensual pornography laws in the U.S. are enacted to criminalize the sharing of intimate images without consent (Franks; Reddy). The *Digital Services Act* in the European Union requires online platforms to enforce stricter policies against illegal content (“The Digital Services Act Package”) and aims to create a safer virtual environment, while the *Istanbul Convention* promotes prevention and protection against violence towards women (“Action against Violence against Women and Domestic Violence”).

In India, the *Information Technology Act* addresses cyber harassment, cyberstalking, and identity theft, with sections 66E and 67 targeting the unauthorized sharing of private images (“Information Technology Act 2000”). Analyzing current laws against cyber and data violence against women and girls reveals significant gaps and points of reform needed. The legal frameworks lack the protections necessary to hold perpetrators accountable. Furthermore, inadequate definitions of cyber violence collectively limit the reach and impact of existing laws. Moreover, coordination between law enforcement organizations and tech corporations is vital in detecting and preventing Internet crimes. Ultimately, a comprehensive plan that incorporates both preventive measures and prompt legal action is essential to handle these evolving difficulties of Internet safety successfully.

Various organizations and websites offer support and resources to women facing

online violence. The Cyber Civil Rights Initiative (CCRI), for instance, provides direct support through a helpline specifically for the victims of image-based abuse (“Cyber Civil Rights Initiative”). HeartMob offers immediate assistance to those facing online harassment and encourages others who witness such behavior to intervene (“HeartMob”). In South Asia, the Digital Rights Foundation (DRF) operates a cyber harassment helpline that provides resources for digital safety and offers counseling that better serves women in South Asia (“Digital Rights Foundation”). Similarly, Take Back the Tech! is a global campaign focused on ending online violence against women by empowering them with digital security tools and promoting safe online spaces (“Take Control of Technology to End Gender-Based Violence”). These organizations show how feminist data principles can be practically applied to help create safer digital environments for women and girls. Education and awareness initiatives are vital in equipping people to detect and oppose dangerous internet conduct. By training digital literacy skills and cultivating critical thinking, individuals may become more discriminating consumers of online content. Additionally, offering services and assistance for victims of cyber and data abuse is vital in helping them navigate and recover from these traumatic experiences. Support services for victims of internet crimes should likewise be freely available and easily accessible. Providing tools such as counseling, legal aid, and support hotlines may help victims navigate the aftermath of cyber assaults and feel empowered to pursue justice. Additionally, education and awareness initiatives are crucial in arming people with the information and abilities to defend themselves online. To create a safer and more secure digital ecosystem for all users, investments in victim support schemes as well as preventive measures might be made.

It is not only vital for governments to cooperate, but also for organizations, corporations, and people to join forces in the battle against cyber dangers. Specifically, there has to be a concentrated effort to combat cyber and data violence against women and girls since they are typically disproportionately targeted and harmed by these sorts of assaults (Recavarren and Elefante). By increasing awareness, adopting better security measures, and pushing for regulations that advocate for robust legal protections that ensure the online security and well-being of women and girls, a safer digital world for everyone can be built. To combat cyber threats and ensure everyone’s safety in the digital world, it is imperative to take action that benefits online users.

Future research areas and proposals for policy improvements may assist in further enhancing the safety and security of women and girls online. By undertaking additional studies on the unique vulnerabilities experienced by women and girls online, better design policies and programs are required to address these challenges effectively. Recommendations for policy improvements may include tougher sanctions for cyber harassment and greater access to resources for online safety education. By making early efforts and cooperating with stakeholders from all sectors, a more inclusive and safer online environment for everyone can be created.

## **5.2 Womanism, Feminism, Digital Feminism**

In the 1970s, Alice Walker coined the term “womanism” to describe the unique experiences and perspectives of Black women, distinguishing their struggles from those of mainstream white feminist movements (Walker). However, scholar Monica Coleman argues that over time, the concept of womanism has shifted, becoming more narrowly defined with an emphasis on cisgender identities and sexual orientation (Coleman). Catherine Knight Steele’s work *Digital Black Feminism* explores how digital platforms challenge oppressive systems like heteronormativity, transphobia, homophobia, and biphobia, which are often intensified by online violence (Steele). Various strands of digital feminism exist, including cyberfeminism and technofeminism. Still, these approaches tend to focus primarily on gender and technology, sometimes overlooking important intersections with race and other identities (Wajcman). Cyberfeminist researchers claim that the Internet alters gender and racial regimes of power via the human/machine hybridity of cyborgs, identity tourism, and the escape from embodiment. Gray’s concept of *Black cyberfeminism* integrates Black feminist ideas with cyberfeminist theory, offering a more effective analytical tool to examine Black women’s internet usage (Gray; McMillan Cottom). Both Daniels and Gray highlight the inadequacies of mainstream cyberfeminism and the necessity of building a more inclusive forum to examine the lived experiences of nondominant groups (Daniels 101; Gray). However, Black cyberfeminism remains tied to the genealogy of cyberfeminism, which has historically excluded Black women’s voices (Daniels 101; Gray).

In her book *Digital Black Feminism* (2021), Catherine Knight Steele highlights the necessity of concentrating on the experiences and viewpoints of Black women in the context of digital technology “and those in power defined technology and wrote its

history, prioritizing the written word and excluding so much of the oral history of Black women who lived through an era state-sanctioned terrorism and enslavement” (23). It argues that Black women may constitute a rich site of inquiry for digital academics interested in understanding the potential and restrictions of digital communication. Digital Black feminism does not see whiteness as a default in technology, but instead a conception of the digital that re-examines the past and future, via my Black feminist positionality, for a new future in digital communications. The book is organized into five parts and begins with a consideration of Black women's specific institutional and social subjugation in American culture, which has generated and sustained ongoing resilience with communications technologies (Steele). The author presents the notion of the virtual beauty shop, which allows for a critical investigation of Black feminist technoculture, allowing for a more comprehensive understanding of Black women's usage and exploitation of digital technology. This method challenges the premise that technoculture reifies whiteness, allowing for a more nuanced understanding of Black feminists' connection with agency, community, and profit in a digital setting. Black cyberculture is a concept that highlights the unique experiences of Black people in integrating pleasure and joy into technology, often associated with suffering and hardship. Brock distinguishes Black cultural production from the dominant frameworks of white cyberculture and suggests that digital Black feminism provides a set of strategies for disrupting its surrounding influence. Black women's lived experiences, which are a composite of oppression and resistance, shape how they engage in communications technologies in both analog and digital spaces. Investigating a Black feminist technoculture without the binary of comparison to white or Black men's cybercultures allows us to see that patriarchal and white supremacist contexts do not define or limit the full range of possibilities for Black women (Brock; Steele). Catherine Knight Steele's *Digital Black Feminism* ends with a significant note: “Pain is inflicted on the group when their culture is taken, used, and disregarded when no longer in fashion. “Eating the other” is a violent act that leaves the victim less whole” (Steele 141).

Elizabeth Losh and Jacqueline Wernimont's anthology, "Bodies of Information: Intersectional Feminism and the Digital Humanities," analyzes and examines the topic of whether the digital humanities can challenge tech culture's preconceptions or perpetuate prevailing prejudices. It covers feminist contributions to

diverse themes, such as ubiquitous computing, game studies, new materialisms, and hashtag activism. Bodies of Information are varied in discipline, identity, place, and technique, structured around terms like materiality, values, embodiment, affect, labor, and situatedness (Losh). It's a crucial complement to the ongoing discourse surrounding the fast-rising area of digital humanities. Caroline Bassett et al *Furious: Technological Feminism and Digital Futures* argue that understanding the digital world is challenging due to problematic literature. They highlight the gendered practices in digital humanities scholarship, which often favors technical forms and gendered writing. They challenge these practices, stressing female traditions and contributions to the discipline. *Furious* highlights issues such as the automation of domestic labor, the Anthropocene, and intersectional feminism. The authors argue that alternative knowledge creation methods and a different writing style are necessary to fully comprehend the digital world (Bassett).

The tale of Christine Darden and Louise Champine highlights the potential of statistics in altering lives and combating institutional injustice. Darden and Champine's collaborative effort makes clear that any data project will involve limitations and trade-offs because transforming lived experiences into data often means losing depth and nuance. The principles of data feminism emphasize that behind all data sets are people who submit their experiences to be counted and analyzed and people who "do the counting, interpreting, presenting, and advocating" (D'Ignazio and Klein).

We should think of data feminism as both an aim and a process, guiding ideas and actions in a space that constitutes a way for us to take steps and move towards world change. Darden demonstrates what we call data feminism, a method of thinking about data, both its uses and constraints, influenced by practical experience, a dedication to action, and intersectional feminist ideas. The work of data feminism tries to tune into how common practices in data science promote existing inequalities and utilize data science to fight and overcome these injustices. Cathy O'Neil, a mathematician and a writer, in her work *Weapons of Math Destruction: How Big Data Increases Inequality and Threatens Democracy*, describes 'datafication' and "pernicious feedback loop," which exacerbates racial prejudice and contributes to the systemic targeting of poverty. Feminism has always been relevant to all genders. Similarly, data feminism, as a framework, "*isn't only about women*" (D'Ignazio and Klein). Gender inequality will encompass more than one gender, and pursuing justice

will take cooperation with gender identities that differ from one another. Therefore, data feminism applies to “Men, nonbinary, and genderqueer people are proud to call themselves feminists and use feminist thought in their work” (D’Ignazio and Klein 14). Data feminism is for everyone, and it includes everyone; it is not confined to a specific class, gender, race, religion, or region, as already discussed in previous chapters.

Moreover, *data feminism isn’t only about gender*. Intersectional feminists have keyed us into how race, class, sexuality, ability, age, religion, geography, and more are factors that together influence each person’s experience and opportunities in the world. Finally, *data feminism is about power—about who has it and who doesn’t*. Intersectional feminism examines unequal power. And in our contemporary world, data is power too. Because the power of data is wielded unjustly, it must be challenged and changed. (D’Ignazio and Klein 14)

Data can be used for both good and malicious purposes. Those in their position of power can generally use it to great effect, whether exploiting it to cement their authority over land, its resources, or its people (D’Ignazio). In the previous chapter, the seven principles of data feminism that were discussed previously can be put under the following headings:

- Challenge Power – Challenge and unearth existing systems of power that impose conditions and restrictions on the collection and use of data.
- Elevate Emotion and Embodiment – Appreciate affect, as embodied and felt experiences, as robust and valuable knowledge.
- Challenge Binaries and Hierarchies – Move beyond both rigid binaries and hierarchies that reduce complexity and marginalise.
- Practice Pluralism – Acknowledge and validate multiple standpoints, especially from populations that are less represented.
- Be Contextual – Dew knowledge in the broader social, cultural, and historical contexts of the data.
- Legitimize the Affective and the Situated – Legitimize the position-based and community-based knowledge associated with in situ data.
- Surface Labor – Surface, acknowledge and credit labour that is often hidden behind the scenes to create data and analysis.

These quotes are used again to transform these topics for further study in a literary

work.

O'Neil's *Weapons of Math Destruction* suggests that one potential way to help mitigate the effects of discriminatory algorithmic outputs is to render computational systems more transparent. O'Neil's approach reminds us that before we can interpret the outputs, we must understand the inputs (D'Ignazio and Klein). This is a key step in minimizing the negative impact of biased data. Therefore, in a related project, data feminism seeks to know where the bias exists. D'Ignazio (2020) notes that data feminism "is inclusive of people of all genders and extends beyond gender issues." Data feminism is also about understanding power: Who has power, who doesn't have power, and how can we use data to disrupt or remake the power hierarchy (D'Ignazio and Klein)? How can these principles be converted into subjects to study in literary texts and the arts? What will be the aims of a data feminist to prevent data violence against women and girls?

- To value multiple forms of knowledge ("Principles of Digital Justice"; Smith)
- To examine the power of data
- To study computational/data aesthetics, how it *embraces emotion and embodiment*, and preserves human value
- Data feminism, *rethink binaries and hierarchies*, which offers a prime example of how classification systems are constructed by cultures and societies and reflect both their values and their biases. The cases of the TSA airport scanners, Facebook user profiles, and plain old pants show us how gender and sex binaries—along with scientifically incorrect understandings of both gender and sex—get encoded into technical systems (and also jeans)! Those systems, in turn, recirculate erroneous and harmful ideas.
- *To embrace pluralism*. Supporting pluralism in data science honors multiple perspectives and voices. Data science can unintentionally assume a role in silencing these voices in the interest of clarity, cleanliness, and control. Much of the received knowledge about data science opposes pluralistic meaning-making processes, and one aim of data feminism is to change that.
- To expose the work of the oppressed. Behind the magic and marketing of data products, there is always hidden labor being hidden—it is frequently performed by women and people of color. This labor is both a cause and an outcome of

the fact that it is both undervalued and underpaid. Data feminism is trying to make this labor visible, so that it can be recognized and valued fairly. Taking labor into consideration leads to the interdisciplinary field of data production studies: selecting a data visualization model or product, and tracing the material conditions, contexts, quality and character of the work and workers to prepare it.

- To check and evaluate the oppression of the data and oppressive behavior at large.
- To check commitments to democratize information.

Discrimination manifests as algorithmic bias, underrepresentation in digital spaces, and systemic negligence. This view is challenged by data feminism, which seeks to break apart these structures that perpetuate discrimination in data and technology. Hence, the proposed model can draw upon the seven core principles of data feminism: scrutinizing existing power structures, questioning and resisting them, valuing emotion and embodiment, reimagining binaries and hierarchies, embracing plural perspectives, situating knowledge within its context, and acknowledging often-hidden labor. These principles stem from key insights developed through decades of intersectional feminist activism and critical scholarship (D'Ignazio and Klein).

### **5.3 Cyber and Data Violence in Marie Lu's Select Novels**

Lu's writing covers important topics about society's use of technology and the internet, making readers think about the future. In Marie Lu's *Warcross* and *Legend* series, the instances of doxing, cyberstalking, cyberbullying, and non-consensual pornography are woven into the narrative, particularly in the context of Emika Chen, Annie, June Iparis, Kaede, Tess, and other female characters. These instances from the selected novels illustrate how information can be weaponized in a dystopian and futuristic setting for control, manipulation, or public shaming. Doxing, as discussed earlier, is an invasion of privacy that makes a person vulnerable in digital spaces and even in the real world. Emika and June, the female protagonists in the *Warcross* and *Legend* series, are both shown as vulnerable to their past. Emika, a skilled bounty hunter, is an orphan, and her struggle with debt made her a target for exploitation and invasion of privacy. After her accidental glitch into the *Warcross* championship, her identity no longer remained personal. She had no control over saving her information from being exposed online, even after being a skillful hacker. She knows the weaknesses of the game; she

narrates, “The only weakness I’ve ever found in Warcross’s security is a tiny glitch when a user is about to use an item. When the item passes from an account into the game and is used, there’s a split second when it is vulnerable” (Lu, *Warcross* 45 ). Still, her identity is exposed in headlines, underscoring the vulnerability of women in the tech world when their personal lives are broadcast without consent. As she became an overnight sensation, the media and the public started investigating her life. Emika panics:

Overhead, my photo appears, covering the entire side of a skyscraper. It’s an old picture of me as a high school sophomore, the last year I spent in school before I was expelled. I look grave in it, my hair pin-straight and at least a dozen different bright colors, my skin so pale it looks ashen. Headlines about me are sprinkled everywhere.

BREAKING NEWS:

Emika Chen Nominated for Wardraft

From Penniless Glitch to Wild Card Star!

Details in This Week’s Issue

HENKA GAMES STOCK JUMPS WITH

EMIKA CHEN ADDITION (capital original)

Seeing my face cover eighty stories is enough to make me nauseous. I force myself to look away from the madness outside and instead press my trembling hands together firmly in my lap. (Lu, *Warcross* 104-105)

Her mental health was destabilized because of the public attention and the aggressive level of scrutiny, especially in male-dominated spheres. The novel also highlights the exploitation through Hideo Tanaka’s algorithm. NeuroLink technology collects personal data without consent with the hidden intent of controlling the masses. For instance, the long queue outside the police station with confessions from millions of people was nothing but the control that the algorithm had on the minds of its users. The effect it had on all the users, women, men, and children, including Emika, could worsen with the beta lens upgrade.

We are always searching for a way to improve our lives with machines, Hideo says. With data. For a while now, I’ve been working on developing the perfect artificial intelligence, an algorithm that, when implemented through the

NeuroLink, can fix our flaws better than any human police force. (Lu, *Warcross* 338)

This Algorithm has led to incidents of doxing. It made accessible ways through which the very elements of doxing—digital manipulation and digital tracking—were made possible. NeuroLink collects the personal data of its users; Emika was also vulnerable. Emika narrates:

Hideo gave me a special ID to get past it all, offering me access to the basic information that Henka Games stores about each user, but using the ID will also allow Hideo to track me more easily, something that might leave me vulnerable to hacking from Zero or another bounty hunter. (Lu, *Warcross* 105)

As Emika moved against powerful entities like Hidea and the Henka Games, she became the subject of targeted violence. The Henka Games corporation has vast resources and a database containing information about its users and opponents. They also use this data to scrutinize and dig for information and expose secrets as a strategy to control and silence. These corporations were also responsible for spreading misinformation about her, revealing personal details, and orchestrating attacks. Now she has become more vulnerable to online threats and hacking. She learned, “Only then did I realize that I’d accidentally exposed a part of my identity while in the Dark World. In no time, my personal information—age, history, location —was broadcast to the entire Dark World, and my equipment was compromised” (Lu, *Warcross* 166). This digital tracking and manipulation highlight the dangers of the tech world and how it invades the personal boundaries of users. This also reflects the challenges women face in the form of disproportionate harassment and exposure compared to their male counterparts.

June Iparis, the female protagonist in *The Legend* series, is portrayed as a strong character who fought against first the Republics, and then to win over the trust of patriots and the colonies. The Republics used her for their benefit and used her as surveillance to maintain their control and power over the colonies. This totalitarian government tried to tarnish her reputation by questioning her loyalty. They released partial truths about her to question her loyalty to turn public opinion against her. Her actions were manipulated to frame her as a traitor. Her missing report was broadcast on the Jumbotron. Her identity and personal information were displayed without her consent. June narrates,

That's what the Republic wants their people to think. That I'm missing, that they hope to bring me back safe and sound. What they don't say is that they probably want me dead. I helped the country's most notorious criminal escape his execution, aided the rebel Patriots in a staged uprising against a military headquarters, and turned my back on the Republic.

But they wouldn't want that information going public, so they hunt for me quietly. The missing report shows the photo from my military ID—a face-forward, unsmiling shot of me, barefaced but for a touch of gloss, dark hair tied back in a high ponytail, a gold Republic seal gleaming against the black of my coat. I'm grateful that the phoenix tattoo hides half of my face right now. (Lu, *Prodigy* 13-14)

After deserting the Republic and aiding Day in his escape, her every move is monitored. The Republic used selective information and sensitive details about her personal life to control the narrative. She uncovers the truth behind her brother's death in an encounter with Thomas. June was hurt by the accidental discovery of Thomas's true colors.

Metias loved you, I say slowly. My words are quivering. "And did so much for you. But you still turned him in?" I shake my head in disbelief. "How could you?"

Thomas looks up at me from his hands, a flash of confusion lighting his face. "I never reported him."

We face each other for a long time. Finally, I say through clenched teeth, Tell me what happened, then. (Lu, *Prodigy* 99-100)

Thomas has no regrets about what he did with June's brother, and he, along with Commander Jameson, tried to frame Day for the heinous crime they committed. Commander Jameson and the Republic are symbolic of what a powerful organization can do when its secrets get exposed; they don't hesitate for a moment to kill a human. They have an internal web of messengers, and they act as tools of surveillance and control.

Thomas stares off into space. "Security admins found traces he left behind when he hacked through a loophole in the system," he replies. "Into the deceased civilians' database. The admins reported it to me first, with the

understanding that I would pass the message to Commander Jameson. I'd always warned Metias about hacking. You cross the Republic too many times, and eventually you get burned. Stay loyal, stay faithful. But he never listened. Neither one of you do." (Lu, *Prodigy* 99-100)

This breach of privacy, where the deceased civilian database could be hacked by someone and used for their gain, made June nervous.

"So you kept his secret?"

Thomas drops his head back into his hands. "I confronted Metias about it first. He admitted it to me. I promised him I wouldn't tell anyone, but deep down, I wanted to. I have never kept anything from Commander Jameson." He pauses here for a second. Turns out that my silence wouldn't have made a difference. The security admins decided to forward a message on to Commander Jameson anyway. That's how she found out. Then she tasked me with taking care of Metias. (Lu, *Prodigy* 99-100)

Even after switching sides and joining hands with the Patriots, she remains in a constant dilemma. The colonies see her as an agent sent by the Republic, and the Republic's enemies use her background and relationship to challenge her authority and competence. June narrates:

I don't know if he means for his words to sound insulting. Day has missed the point I'm trying to make: that the Patriots probably won't help us and then we'll be stuck in a military city. But Day thinks I'm hesitating because I don't trust the Patriots. That, deep down, I'm still June Iparis, the Republic's most celebrated prodigy ... that I'm still loyal to this country. *Well, is that true?* I'm a criminal now, and I'll never be able to go back to the comforts of my old life. The thought leaves a sick, empty feeling in my stomach, as if I miss being the Republic's darling. Maybe I do. (Lu, *Prodigy* 6).

Tess's dependency on Day and his ally made her vulnerable to the Republic's expansive surveillance, emphasizing the oppressive nature of the Republic's watchfulness. She is a very weak orphan and the Republic sees her as bait to catch and control Day. Emika narrates, "Tess stays up and talks with us, but soon her eyelids grow heavy, and she falls asleep with her head on the boy's vest. The boy and I lapse into silence. I let my eyes linger on Tess. "She seems very fragile," I whisper" (Lu, *Legend* 125). She is indirectly affected by the Republic's use of surveillance and public

exposure. Her association with Day puts her at risk in the slums.

Both the *Warcross* and *Legend* series include the elements of stalking, reflecting the oppressive use of technology to control and intimidate in the dystopian and cyberpunk setting, reflecting how the female characters are subjected to surveillance, tracking, and obsessive behavior from the systems of authority. It is also linked with related behaviors such as cyberbullying and non-consensual pornography. Stalking is the repeated harassment of a victim, making them fearful for their safety (Dennison; Diette et al.). It is a crime of violence against women carried out by men (Cheyne and Guggisberg; Mohandie et al.). This harassment leads to the fear of being followed physically, as well as with the progression of the Internet and mobile phones, making them overlap with each other. These actions can threaten a woman in physical and digital landscapes. Cyberstalking is done by the internet or other electronic communication that is structured to repeatedly harass or threaten, which causes fear for the victim in the digital spaces (Cheyne and Guggisberg; Parsons-Pollard and Moriarty; Shimizu). It is usually done to control or intimidate a person (Cheyne and Guggisberg). In the *Warcross* series, the excessive surveillance through NeuroLink serves as an example of stalking, often crossing into the stalking territory. The creation of Hideo holds the ability to control people's thoughts, thereby monitoring every move they make. Emika narrates, "Eventually, everyone will have this installed in their minds. And that will give Hideo control over each of them" (Lu, *Warcross* 343). Furthermore, she notices, "You mean you'll control ninety percent of the population." Hideo replies, "People can still live their lives, pursue their dreams, enjoy their fantasy worlds, and do everything they've ever wished to do. I'm not standing in the way of any of that. They can do anything they want, as long as it is not a crime" (Lu, *Warcross* 342). The NeuroLink crosses ethical boundaries, reflecting how technology can be weaponized to monitor and manipulate individuals.

Emika became a target for Hideo and later for Zero. They used their technological resources to track her. She is frightened, "A shiver runs through me. Has he been researching my past? Has he been watching me?" (Lu, *Warcross* 283). This online stalking got severe when Emika feared for her life on the streets of Tokyo. She narrates;

Someone is watching me.

I can feel it – the eerie sensation of being followed, an invisible gaze locked on

my back. It prickles my skin, and as I make my way through Tokyo's rain-soaked streets to meet up with the Phoenix Riders, I keep looking over my shoulder. (Lu, *Wildcard* 7)

The paranoia faced by Emika made her fear for her life, making it inescapable and omnipresent. She narrates, "A car? Maybe I wasn't just being paranoid, after all. He had been watching me, maybe had calculated what routes I'd take once I left the Riders" (Lu, *Wildcard* 27). There were assassination attempts made for her: "A shot rings out behind me, whizzing narrowly past my neck to chip the wall at an angle. A bullet. A *gunshot*. A sudden wave of terror sweeps over me" (Lu, *Wildcard* 27).

Hideo's obsession with finding his kidnapped brother, Sasuke, leads to the development of systems that enable large-scale stalking. Hideo's motivations were personal, but the repercussions were faced by millions, including Emika. Emika narrates;

He's doing this because of Sasuke. He created all of this so that no one would ever have to suffer the same fate as his brother, that no family would ever go through what his did. Our conversation comes back to me in a flash. You created Warcross for him, I'd said. And he'd responded, Everything I do is for him. (Lu, *Warcross* 341)

The constant surveillance by the Republic's authoritarian regime tracks its citizens relentlessly, particularly June, who is deemed a threat. This mass surveillance system mirrors stalking behaviors on a societal scale. June narrates, "I see security cameras at every corner, broadcasting my image live to the public. The Republic is afraid to give people even the slightest sense that Day and I aren't being taken care of" (Lu, *Prodigy* 331). The Republic has eyes all over that track every movement. June narrates;

We've started walking again. None of the others seem particularly concerned about the onslaught of virtual text and numbers layered over the real world, so I'm left to my own intuition. (Although the Antarticans aren't wearing glasses, their eyes occasionally flicker to virtual things in the world in a way that makes me wonder whether they have something embedded in their eyes, or perhaps in their brains, that permanently simulates all of these virtual things for them. (Lu, *Champion* 134)

This omnipresent surveillance created an atmosphere of paranoia and suppression. Furthermore, Thomas, a soldier loyal to the Republic, also exhibits stalking behavior

toward June. He goes beyond professional respect into an unhealthy obsession. His actions, such as keeping close tabs on her movements and decisions, reflect personal stalking disguised as loyalty. The constant surveillance and tracking deeply affect the protagonists' sense of safety, autonomy, and trust in others. In both series, advanced technology allows stalking to become systemic, leaving no escape from being watched or followed.

Both the *Warcross* and *Legend* series include the themes of cyberbullying as well. The environments were filled with power imbalances, technology misuse, and societal judgments. Cyberbullying often involves frequent harassment or humiliation of a person through virtual means. Cyberbullying behavior is categorized into four different forms: written-verbal, visual, exclusion, and impersonation (Nocentini 132). It leads to mental discomfort and even physical injury for the victim. After getting fame, Emika's anonymity was shattered by the media when her information was sought and released by the media, making her the subject of relentless attention and online abuse. The central character of the *Warcross* series, Emika Chen, faced humiliation. In one incident, she feared for her reputation because of the news in the media and the spread of misinformation and doctored images. The media spread lies about her to humiliate her publicly. She narrates:

Suddenly, the holograms in the arena change. The crowd goes still for a moment. I go still. My teammates all pause in unison.

Then, everyone bursts into gasps and shouts. As they do, I can only find enough strength to stare in stunned silence at the grainy screenshot that is now publicly broadcast to everyone in the arena, and probably to everyone watching this game.

Everyone in the world. I don't know who had taken it, or how. But somehow, I know Zero is involved. This is the beginning of his attack on me. The holograms display a giant photo of me stepping out of Hideo's home at night, of him leaning in to kiss me, of his hand still holding on to mine. It's unmistakable.

The news is out (Lu, *Warcross* 283)

NeuroLink, a highly advanced augmented reality system, has become a tool for cyberbullying. People misuse its capabilities to send malicious messages directly to Emika. She narrates, "When we arrive at the dorms, I go straight to my room without

saying a word to anyone. I'm too afraid to look at my phone. I've already turned off my messages" (Lu, *Warcross* 284). This illustrates how technology can amplify harassment. Furthermore, Zero and other organizations tried to exploit vulnerabilities in NeuroLink to manipulate and harm users psychologically, a form of cyberbullying on a mass scale.

In the *Legend* series, the Republic uses propaganda to discredit June and Day. They twisted their action to portray them as the enemies of the state. June faces cyberbullying through false accusations and online campaigns targeting her competence and relationships. June's experiences reflect the heightened scrutiny women in leadership roles face, both online and offline. This public shaming spreads mistrust and fear. Day narrates, "On the wall across from me, graffiti scrawled in red reads, Day = Traitor. I sigh, take a silver tin from my pocket, and pull out a long cigarette" (Lu, *Champion* 1). This use of media to spread lies about the protagonists mirrors online smear campaigns. The Republic also orchestrated digital campaigns to ensure Day and June's image is tarnished.

At least twice a month, I see my Wanted poster flashed on the JumboTrons scattered throughout downtown Los Angeles. It looks out of place up there. Most of the pictures on the screens are of happy things: smiling children standing under a bright blue sky, tourists posing before the Golden Gate Ruins, Republic commercials in neon colors. There's also anti-Colonies propaganda. "*The Colonies want our land,*" the ads declare.

*"They want what they don't have. Don't let them conquer your homes!  
Support the cause!"*

Then there's my criminal report. It lights up the JumboTrons in all its multicolored glory:

WANTED BY THE REPUBLIC

FILE NO: 462178-3233 "DAY" (Lu *Legend* 1)

The psychological toll that June and Day experienced shows how cyberbullying can strip individuals of their identity and reduce them to a caricature in the eyes of the public, leading to self-doubt, anxiety, and alienation due to online abuse.

Another kind of data violence in the digital realm is non-consensual pornography (NCP), also known as revenge porn. It takes place when the perpetrator

publishes a sexually graphic image or photo without consent by hacking into social media accounts or by using a hidden camera to record sexual assault acts (Burnett). There are certain illustrations from the novel that delve deeply into the explicit violation of privacy and consent, portraying the devastating effects of non-consensual pornography (NCP).

While sharing a memory, Emika recalls how she rescued her friend Annie Patridge in high school. Annie became a victim of NCP when a boy in her group project secretly captured her showering at her home. He then distributed that image to his group and shared it online. She became a target of public ridicule and harassment. Unable to cope, she drops out of school shortly afterwards. This invasion of privacy in her private space depicts a breach of trust and autonomy.

But then, one day, a boy working on a group project with Annie managed to snap a photo of her showering in the privacy of her own home. The next morning, Annie's naked photo had been sent to every student in school, shared on the school's homework forums, and posted online. Then came the taunts. The printouts of the photo, all cruelly drawn on. The death threats.

Annie dropped out a week later. (Lu, *Warcross* 72)

It depicts the intrusive nature of NCP, where private photos are captured and distributed without consent. This rapid spread leaves victims powerless to stop the circulation, underscored by the dangers of technology in enabling mass privacy violations. Annie received relentless bullying and death threats, adding a layer of terror, emphasizing how NCP not only humiliates but also places victims in physical and emotional danger.

The concept of data feminism underscores the necessity of integrating feminist principles into data practices, particularly in addressing the crucial issue of women's privacy. Marie Lu's work *Warcross* serves as a poignant reminder of the repercussions associated with privacy violations, as exemplified through the plight of Annie Patridge, depicted as a socially marginalized and vulnerable individual within her school community, who falls victim to data exploitation, ultimately resulting in grave consequences, including death threats. This distressing portrayal not only resonates with the contemporary societal realities but also with most of the cases where no action is taken, probably because of the honor of the family or because of the anonymity of the threatener or the abuser. In response to this pressing issue, there emerges a call for the development and implementation of a comprehensive model aimed at preserving

and safeguarding the privacy rights of women, thereby mitigating the pervasive threat of exploitation and harm.

#### 5.4 Solutions: Data Feminist System (DFS) of Safety and Security

It is not only vital for governments to cooperate, but also for organizations, corporations, and people to join forces in the battle against cyber dangers. Specifically, there has to be a concentrated effort to combat cyber and data violence against women and girls (Recavarren and Elefante) since they are typically disproportionately targeted and harmed by these sorts of assaults. By increasing awareness, adopting better security measures, and pushing for stringent regulations and policy improvements that promote policies aimed at guaranteeing the digital safety and rights of female users online, a safer digital world for everyone can be built. To combat cyber threats and ensure everyone's safety in the digital world, it is imperative to take action that benefits online users. These prevailing problems and issues regarding the security and privacy of women need to be addressed, with the help of a deep learning model and Data Feminist System (DFS) of Safety and Security, the issues of privacy and identity theft will be addressed.

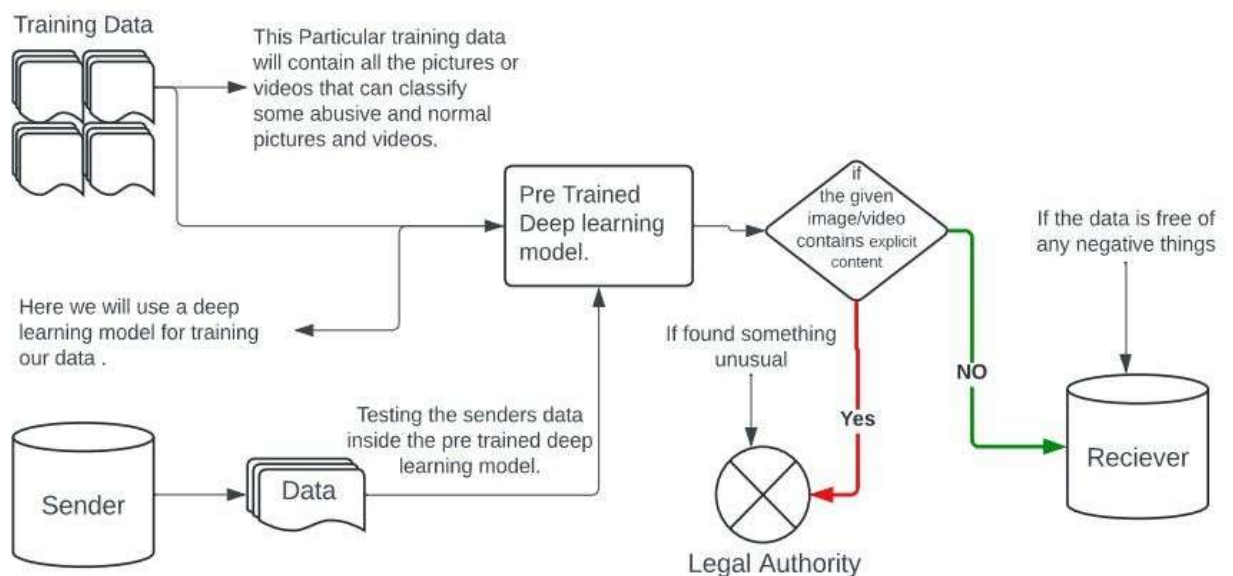


Fig. 4. Data Feminist Model as Solution to Prevent Cyber and Data Violence Against Women and Girls (CDVWG)

The data that is fundamental to the process of training a machine learning model is termed the training data or training set (Mitchell). Here, the training data will contain all the graphical content whose purpose is to classify the explicit and abusive content

in the form of an image or video. This model will utilize machine learning algorithms, which, according to a leading technology provider, are a set of already defined or systematic rules that an AI machine uses to perform different tasks. Investigation of training data gives insight into the models to pick features that have the highest likelihood of bringing relevant results (Mitchell).

In broad terms, machine learning algorithms are divided into two groups, which are supervised and unsupervised learning methods and it depends on the character of the training data (Alpaydm). The training data in supervised learning is labeled, so each data point has the correct category or takes the one defined as the predefined value (Géron). Labeling is the most important part of the process that can be compared to the correction mechanism for teachers - the algorithms receive this information, which allows them to improve the ability to recognize and predict the given result (James et al.).

The training data that is given will work on unsupervised learning. It brings about the incorporation of data that is not tagged with any previously defined categories (Alpaydin). The challenge hence, demands a new way of thinking that goes beyond trying to procure the relationships between the data points and the actual structures hidden within the data (Hastie et al.). During this procedure, unsupervised machine learning models can be very helpful and group similar data points together as a cluster (James et al.). The model will use unsupervised machine learning to classify the data based on whether the content is normal or contains any explicit information. The key aim of unsupervised learning is to present data sets to the machine, which awakens it to the vast diversity so that it can learn and comprehend hidden patterns without the machine having explicit knowledge of the data (Dhillon et al.).

The use of a pre-training deep learning model will act as a filter. Now the actual working will start when the sender, by any electronic means, sends data, that data will be filtered and tested inside the deep learning model. There will be two conditions: one in which the model will test if the data, image, or video contains any explicit information, or if it is free from any explicit content. In the first case, if it contains anything, the issue will be intimated to the legal authority, and the content will be blocked from reaching the receiver's end. In the second case, if the content found is free from any obscene nature will be passed on and the receiver will receive the data in the form of output.

Data and algorithms may be useful tools, but they have the potential to uphold and perpetuate systematic oppression. We must question their origins, recognize their limitations, and take into account the context and complexities within which they operate. By adopting a co-liberation mindset, we can strive to break down oppressive power structures and leverage data as an instrument for positive change. The real-world examples showcased in this book testify to the power of data and the potential of data feminism to spark meaningful change and promote a more equitable future for all.

Emika and June provide insight into how girls become a target of cyber-violence against women and girls (Cyber-VAWG). As pointed out previously in the chapter, Cyber-VAWG is a consequence of a larger structural issue affecting millions of the world's women and girls, representing significant threats to global peace, security, and social violence (UN Women). Nonetheless, this rapid advancement in the Internet, mobile communication technology, and social media is considered an amplifying tool in the global fight against (VAWG). However, these have also been weaponized, potentially endangering the number of women online or in danger of online abuse, with social and economic consequences. The violence, including threats of rape, death, and stalking, ultimately requires both emotional resilience and financial resources (Amnesty International). Effectively addressing these issues requires enhanced legal tools and social mechanisms to counter these harmful attitudes and criminal behaviour online. Even if the parameters of gender-based violence have shifted, the associated challenges have escalated, with continued resistance to change. Visionaries, authors, and storytellers are one avenue of addressing gender inequality and equality by practicing work that incorporates both scientific and data in a narrative format. Action in combating prevention of cyber-violence needs to be considered a change in norms in society, model and educate future ICT users, and promote policy ensuring safe digital places. Established protections now extend to online safety strategies alongside traditional support systems such as women's shelters, crisis centers, hotlines, and educational programs (European Institute for Gender Equality). The digital world also needs safety measures to keep up with the quickly changing Internet, needing resources, attention, and active engagement from businesses, civic society, and governments.

Sanctions – which are about law and the capacity of courts and institutions to enforce compliance and impose strict penalties on offenders. Setting out clear rules is

vital, but doing justice to the matter is required to solve the situation. Public speech is a fundamental right that needs to be defended and protected by everyone, especially those who use the Internet. Also, some activists and scholars have suggested that there should be a Cyber Civil Rights Initiative (CCRI) arising from collaboration between nations to combat online safety. The foundational work has already been done by existing international human rights standards, providing a safe and secure cyberspace. Increasingly, international and national regulations and transnational collaborative alliances are arising to respond to the social hazards of cyber violence.

## **Conclusion**

Showalter's model of feminism and data feminism come together to provide a framework for analysing the evolving feminist discourse in the digital age, which is different from the traditional feminist theories that targeted the patriarchal structures in society, media, and literature. However, there is a need for feminism to critically engage with the current demands of society, which deal with digital data and artificial intelligence, because technology has transformed every sector, including global communication, knowledge creation, and information sharing. This became the basic core of data feminism, which analyzes the power that operates in digital infrastructures, which comes with flaws in the form of biased algorithmic systems and calls for more fair data practices. In addition to the application of data feminism, the chapter has provided the historical underpinning of Showalter's model of feminism. The need for intersectionality and inclusion of critical analysis into modern feminist philosophy is underscored by the shift from traditional feminist techniques to a more technically advanced approach. This became a crucial issue for feminist researchers to modify their approaches in a way that meets the demands of these emerging issues of algorithmic bias, surveillance, and digital exclusion of the marginalised communities. This theoretical approach has implications outside academia, where a feminist viewpoint is important to ensure the data-driven decision-making process does not solidify the current injustices because it is linked to the economies, policies, and daily lives of individuals.

Elaine Showalter's feminist literary framework provides a thorough perspective to examine the development of women's literature to forge a new scholarly identity. Gynocriticism, a substantial contribution to literary criticism, highlights the biological, linguistic, psychological, and cultural elements of women's writing. Showalter focused on questioning the male-dominated traditions that made the women's literary discourse autonomous and independent. This gender inequality is still dominant in the modern digital age, but differently, where data feminism is the modern emerging discourse that is built on the feminist ideals of Catherine D'Ignazio and Lauren Klein. They focus on the power relations in data science to promote a fair representation of data practices. They also focused on the intersectionality in data analysis by working to eradicate structural injustices that are ingrained in the technology. This continuous fight against gender-based discrimination in literature and online places is highlighted by converging data feminism and Showalter's feminist

criticism. Where data feminism targets the technological, Showalter targets and questions the patriarchal literary norms. This convergence has made an innovative model of feminist literary criticism. It brings together the ideas of data feminism, especially while examining the writings of women in speculative fiction. In the *Warcross* and *Legend* series, the issues of gender discrimination and misrepresentation are highlighted by targeting the technology that existed in the form of NeuroLink. The female characters in the novels confront the technology that is masculine-based and that involves the unfair practices of privacy invasion and surveillance. These issues highlight the need for a feminist perspective that is data-driven and that involves fair analyses in which gendered experiences are shaped. Ultimately, connecting data feminism and feminist literary criticism provides an essential approach in examining the works of modern women by offering a framework to question conventional wisdom, promoting digital justice and developing the feminist discourse in parallel with technology, which can elevate the women's voice in literature and data science.

Marie Lu, a Chinese American author, has showcased her capacity to combine science, technology, and social concerns. Her experience in the gaming industry influenced her writing, where she created a thought-provoking virtual atmosphere, futuristic and dystopian settings. In her novels, *Warcross*, *Legend*, and *The Young Elites*, she shaped the society and the lives of people who are influenced by technological developments. Lu created bold and complex female protagonists, Emika Chen and June Iparis, who are strong, rebellious, and skilled in their expertise and question the conventional gender norms. She created her female characters as leaders who confront authority. The authority that is using unfair data practices and using digital surveillance, digital invasion of privacy, to police and control the masses. Her novels also raise questions about technology and ethics. In her *Legend* series, she gave a powerful plot that involves an authoritarian government where genetic engineering, rigid class system, surveillance, and systemic inequality are the highlighted issues. In contrast to the *Legend* series, the *Warcross* series presents a world that is dominated by technology. A dystopian world where there is a dominance of virtual reality of artificial intelligence. Human interactions are shaped by virtual reality, where Emika Chen, the protagonist of the series, is trapped in a cybernetic world where privacy, ethics, and security are compromised by the creation of the NeuroLink. This NeuroLink has taken control over the free will of the users who are linked to it with the beta lenses or glasses.

In this way, Marie Lu warns the readers about the serious implications of technology. In addition to her narratives, she has made a significant contribution in representing characters from diverse backgrounds, including varied ethnic and social backgrounds. Emika Chen, a hacker from a Chinese background, and June Iparis, a skilled military officer from an Asian-American background. They are not just passive characters; they redefined leadership in the male-dominated fields.

Marie Lu's novels also examine human psychology, especially ambition, trauma, and grief, which shape a person's morality. Adelina Amouteru in *The Young Elites* starts as an outcast who suffered because of the betrayal that plunged her into darkness. Lu's expertise extends beyond fiction. In the *Warcross* series, she combined education with entertainment, and it was named one of the "Best STEM Books 2018, thereby making STEM topics more approachable and engaging for young readers by stressing professions in gaming and artificial intelligence. Her works also involve themes that capture sociopolitical issues, such as surveillance in the name of security, data privacy, and bias in artificial intelligence. In *Warcross*, Hideo Tanaka invents an algorithm that was initially aimed at improving security, but later tried to take control of the minds of the users. This incident from the narrative highlights the issues of the real world, where digital surveillance and social media threaten the ethics of Artificial Intelligence in government, which is initially aimed at improving the lives of the citizens, but is being used otherwise. Lu's work offers a lens to the readers to examine the contemporary world and to look into these pressing issues that work beyond mere entertainment. Marie Lu is one of the most important young adult fiction writers whose writings sit at the nexus of resistance and ethics in technology. In addition to telling stories, her books ask readers to think critically about power, control, oppression, and the role of technology. She merged STEM ideas with emotionally compelling stories in a captivating way and encouraged the new generation to use the technology responsibly. Her writings demonstrated that young adult fiction could be both academically exciting and socially transforming. Her novels will remain influential for years because of her explicit ability to capture societies filled with ethical dilemmas, strong-willed characters, and complex opponents. Her works serve as a reminder to challenge power and realize the ethical consequences of technology.

The inability of contemporary society to address gender-based discrimination and misrepresentation reflects a broader systemic failure to ensure equality and justice.

As digital technologies evolve, they continue to reproduce and reinforce existing social biases, particularly against women. This phenomenon is evident in the digital misrepresentation of women, algorithmic biases, and the perpetuation of stereotypes in media and literature. As observed in Marie Lu's works, her narratives reflect a conscious effort to challenge these biases, providing a platform for female agency within male-dominated technological landscapes. Cyber and data abuse directed against females is exacerbated by algorithmic discrimination and inadequate digital governance. The intersection of digital bias and gender disparities underscores the necessity of data feminism as a research framework to counteract systemic inequities. This framework advocates for inclusive, intersectional approaches to data collection and technological development, ensuring that marginalized voices are recognized in the digital sphere. Addressing these disparities requires a concerted effort from policymakers, educators, and technological developers to dismantle patriarchal data structures and redefine digital inclusivity.

Marie Lu's works, particularly through characters such as Emika and June, highlight both the challenges and opportunities for women in digital spaces. By portraying technologically adept female protagonists, she subverts conventional gender norms, presenting alternative narratives where women are central to digital innovation and resistance. Her novels align with broader feminist critiques, as outlined in Showalter's model of feminism and Catherine D'Ignazio and Lauren Klein's *Data Feminism*, wherein both emphasize the necessity and significance of integrating feminist methodologies into data science and digital analysis. Moving forward, a multifaceted approach is required to combat gendered digital misrepresentation. This involves strengthening legal frameworks to hold digital platforms accountable for biased algorithmic practices, increasing literacy on digital rights among women and marginalized communities, and fostering inclusivity in technological development. The integration of feminist perspectives into digital policymaking can pave the way for a more equitable and representative digital ecosystem. Marie Lu's narratives contribute to this discourse by offering a speculative but insightful reflection on how gender biases manifest in technological domains and how they can be challenged through critical engagement and systemic reform. Ultimately, the fight against gender-based digital discrimination is an ongoing struggle that necessitates collective action. The inclusion of feminist methodologies in digital governance and the continuous critique

of gender biases in literature and media is essential to fostering an inclusive future where digital spaces empower rather than marginalize women.

Chapter 4 underscores the complexities of cyber violence against women and girls (CDVWG) in the digital age. The chapter highlights the multifaceted nature of online violence, which extends beyond personal attacks to systemic issues affecting the social, economic, and psychological well-being of women. The proliferation of digital platforms, while offering opportunities for empowerment, has also facilitated new avenues for harassment, stalking, and abuse. The absence of effective regulatory mechanisms exacerbates these challenges, making it imperative to implement robust legal and social frameworks to safeguard digital spaces. The discussion within the chapter aligns with global initiatives, particularly the United Nations' emphasis on gender equality and digital empowerment. Addressing cyber and data violence against women and girls requires a multidimensional approach that integrates legal reforms, social awareness, and technological safeguards. The digital ecosystem must incorporate preventive measures, such as education and awareness campaigns, to reshape societal attitudes and mitigate gender-based cyber threats. Additionally, institutions must invest in gender-sensitive technological solutions to ensure safer digital environments.

Marie Lu's literary contributions provide a narrative framework for understanding the intersection of gender, technology, and power dynamics. Her fictional characters—Emika, June, and Sydney—serve as archetypes of resilience, embodying both technical prowess and resistance against systemic oppression. Through her works, Lu presents alternative visions of technological spaces where women are not merely passive users but active contributors and innovators. This literary perspective enriches the discourse on data feminism, aligning with theories of Catherine D'Ignazio and Lauren Klein. The synthesis of Showalter's feminist critique with data feminism offers a critical lens through which readers can deconstruct contemporary social issues. By engaging with narratives that foreground female agency in technological landscapes, scholars and policymakers can derive insights into real-world digital inequalities. The chapter ultimately asserts that achieving gender equity in digital spaces necessitates collective action from governments, civil society, and private stakeholders. Moving forward, continued interdisciplinary research and policy interventions will be crucial in fostering inclusive and equitable digital futures.

Chapter five establishes data feminism as a critical research framework to address and mitigate cyber and data violence against women and girls (CDVWG) (Dowrick 6). It argues that the digital sphere, while offering opportunities for connectivity and empowerment, has become a platform for gendered violence, including cyberstalking, doxing, and the nonconsensual dissemination of personal data. The chapter highlights the need for systematic interventions through education, policy reforms, and technological solutions to combat these forms of violence effectively. Data feminism, as discussed in chapter five, challenges the traditional notion that data is neutral and instead asserts that data practices are shaped by existing societal biases. By incorporating feminist principles, data science can be leveraged to empower marginalized communities and develop safer online environments. The chapter underscores the necessity of integrating gender-sensitive AI-driven interventions to detect and prevent cyber abuse in real time. Additionally, it advocates for interdisciplinary collaboration between policymakers, technologists, and feminists to design digital systems that promote accountability and inclusivity.

Marie Lu's novels provide a literary lens to explore the implications of digital violence. Through characters like Emika Chen (*Warcross*) and June Iparis (*Legend*), Lu highlights the vulnerabilities of women in technologically advanced societies while also portraying their agency in resisting cyber oppression. By examining Lu's narratives through the framework of data feminism, this chapter reinforces the need for systemic changes in digital governance, ensuring that online spaces do not become enablers of gender-based violence. Ultimately, the chapter asserts that tackling CDVWG requires a proactive and multi-dimensional approach. It calls for the adoption of ethical AI, stricter digital policies, and global cooperation to establish safer cyberspaces. This, therefore, evolves the frameworks and allows for governing according to its ethical use, ensuring that digital advancements contribute to gender equality rather than perpetuate existing disparities.

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