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REVIEW

Exploring Ethical Concerns in IT Through the Lens of Literature: Conceptual Foundations and Future Directions†

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ABSTRACT: The rapid integration of digital technologies into social life has intensified ethical debates around surveillance, artificial intelligence (AI), data governance, and human autonomy, yet their cultural and experiential dimensions remain underexplored. This study argues that speculative and dystopian literature serves as an alternative epistemic space for ethical reflection, shaping public imagination and informing contemporary IT discourse. Through qualitative analysis of five key works—1984, Do Androids Dream of Electric Sheep?, The Circle, Exhalation, and The Dispossessed—the study identifies recurring ethical themes including surveillance systems, personhood, algorithmic power, ecological and existential vulnerability, and models of technological governance. Situating these narratives alongside foundational IT ethics scholarship shows how literature anticipates sociotechnical dilemmas and provides conceptual vocabularies later adopted in public and policy debates. The findings suggest that speculative fiction not only reflects cultural anxieties but also functions as a normative resource for ethical reasoning, education, and AI governance, supporting its integration into IT ethics research and pedagogy.

Keywords: Dystopian literature; Digital ethics; Artificial intelligence ethics; Surveillance and data governance; Ethical imagination; Speculative fiction; Technology and society

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1 Introduction: Literature as Method for IT Ethics Inquiry

As digital technologies increasingly shape human life, ethical questions surrounding information technology (IT) have become central to public discourse and policy, particularly in areas such as data privacy, artificial intelligence (AI), and surveillance. These issues challenge prevailing assumptions about governance, personal information, and technological agency. While ethical frameworks often address such concerns in abstract terms, they frequently overlook the experiential and emotional dimensions of technological impact.

Literature—especially speculative and dystopian fiction—has long served as a critical medium for examining the societal and personal consequences of technological change. Initially used to explore abstract scientific ideas through thought experiments, science fiction evolved into a sophisticated form that interrogates power, morality, and human identity. By translating complex ethical dilemmas into narrative form, fiction communicates the emotional stakes of technology more effectively than theoretical models alone [8].

Existing scholarship tends to separate IT ethics from literary analysis, leaving limited work that integrates narrative critique with ethical theory. This study addresses that gap by examining how speculative fiction engages with IT ethics, drawing on foundational work in information ethics and surveillance capitalism alongside literary texts such as Do Androids Dream of Electric Sheep?. Informed by literary theory, the study employs qualitative content analysis to identify recurring ethical themes and narrative strategies, contributing a multidisciplinary perspective to contemporary debates in technology ethics.

1.1 Contextual Foundations: Techno-Ethics and Narrative Theory

Mary Shelley's Frankenstein has long been a foundational text in bioethics and medical research [24], illustrating how literature shapes ethical reflection in scientific discourse. Historically, influential literary works have contributed to public understanding and ethical frameworks surrounding emerging technologies [**?**]. As technological innovation accelerates societal change, science fiction offers a critical space for exploring possible futures. This study therefore examines how speculative narratives influence ethical thinking in information technology, particularly in relation to policy, public perception, and decision-making.

The intersection of IT ethics and literary studies forms the emerging field of techno-ethics, yet it remains underexplored. IT ethicists such as Bynum (2018) and Floridi (2013) focus on AI, data governance, and surveillance in largely theoretical terms, while literary scholars like Hayles (2008) and Jameson (1991)

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examine technological themes in speculative fiction without fully connecting them to practical ethical implications.

1.2 Purpose and Scope of Study

This study explores how literature across three historical periods represents IT-related ethical dilemmas and shapes later cultural and ethical debates. It also traces intertextual links to identify thematic continuities, focusing on narratives of surveillance, artificial intelligence, and data privacy to address the following questions:

- How do literary works articulate ethical issues in information technology?
- Which recurring themes align with contemporary technological challenges?
- How can literary insights inform ethical decision-making in IT?

2 Related Work and Theoretical Background in IT Ethics and Narrative Studies

Fisher (1984) argues that narratives elicit stronger emotional engagement than purely logical arguments, making complex ethical dilemmas more accessible and cognitively resonant. This insight supports the use of literary analysis in ethical inquiry, especially in fields traditionally shaped by technical and philosophical approaches.

Here is a concise version retaining all core content:

Floridi identifies four key ethical issues arising from the information revolution—privacy, accuracy, property, and accessibility—which underpin contemporary debates on digital rights, data governance, and algorithmic accountability [**?**]. His framework shows that information ethics extends beyond technical concerns to fundamental questions of human dignity and social justice in digital environments.

Jenks (2000) argues that science fiction responds directly to ethical challenges posed by industrial and technological change, with authors such as Butler, Wells, and Stapledon using speculative settings to critique the moral implications of scientific progress [10]. This tradition positions science fiction as a vital medium for ethical exploration, allowing moral questions to be examined before they emerge in empirical reality.

Green, Travis, and Tranter (2024) argue that science fiction shapes legal imagination by raising questions of justice, personhood, and rights in technologically mediated futures [22]. Tranter (2018) further notes that the genre integrates technical and legal concerns at the level of fundamental commitments, positioning science fiction at the intersection of technological possibility and normative constraint [40]. Baron, Cornea, and Halvorsen (2017) show that science fiction critically examines ethical dilemmas in biotechnology, artificial intelligence, and social organization, framing it as a key tool for understanding moral development in technologically transformed contexts [2]. This view is reinforced by Miller and Bennett (2008), who argue that fiction enriches future-oriented thinking by enabling exploration of alternative paths and their ethical consequences [29].

Fig. 1 First published in 1818, Frankenstein has long shaped ethical discourse on scientific and technological innovation. Its continued relevance lies in its exploration of responsibility, creation, and unintended consequences, making it a lasting framework for contemporary technology ethics. The use of Frankenstein as the theme of a modern technology ethics event highlights the enduring role of literature in ethical reflection on technological practice [13].

3 Historical Development of IT Ethics

Gasper (2019) traces the evolution of IT ethics from questioning whether technological development should be guided to examining how such guidance can be implemented, reflecting recognition that technology cannot develop in an ethical vacuum [15]. Randell (1984) emphasizes the human dimensions of technological change, advocating human-centred adaptation within educational and social institutions and challenging purely technical approaches to ethical governance [33].

Lyon (2018) analyses the normalization of surveillance, showing its shift from exceptional state practice to everyday experience sustained by voluntary participation and self-monitoring, complicating traditional notions of privacy violation [27]. Clements (2015) demonstrates how science fiction disrupts anthropocentric ethics by critiquing human-animal relations and imagining empowered non-human agents, highlighting the genre's capacity to reconfigure ethical norms [9]. Stewart (2019) further illustrates the value of speculative fiction in examining media law and freedom of expression, using fictional futures to illuminate contemporary threats to privacy and communicative rights [**?**].

4 Narrative Theory as Ethical Inquiry

Literature as a Mirror of Ethical Dilemmas: While IT ethics often focuses on regulation and governance, literature explores how technology shapes everyday experience, power relations, and human dignity [12]. Works such as Eggers' The Circle (2013) render abstract ethical concerns tangible by dramatizing the impact of corporate digital power on identity and relationships [**?**].

Fig. 2 Narrative frameworks have long functioned as cultural artifacts and tools of knowledge transmission, communicating values, social norms, and ethical lessons across generations. Beyond entertainment, narratives remain powerful instruments for shaping understanding, emotional engagement, and critical reflection in contemporary contexts.

Literature as a Speculative Laboratory: Whereas IT ethics asks what should be done about AI, surveillance, or data control, literature asks what might happen if these technologies evolve unchecked [5]. Speculative fiction, including Dick's Do Androids Dream of Electric Sheep? and Le Guin's The Dispossessed, creates imaginative spaces for ethical reflection prior to technological or policy realization [11, 26].

Humanizing Technical Ethics: Literature translates abstract ethical debates into narratives grounded in emotion, culture, and moral conflict, making complex issues accessible to policymakers, practitioners, and the public [30].

Providing Conceptual Vocabularies: Literary texts shape public discourse by supplying enduring ethical language. Pankowski (2018) documents the continued use of Orwellian terms such as "Big Brother" and "doublethink" in political rhetoric, illustrating literature's lasting influence on technological critique [32].

Bridging Disciplinary Divides: Literature complements IT ethics by illuminating how technology is perceived and experienced in lived contexts, integrating technical analysis with cultural and phenomenological insight [23, 34].

5 Science Fiction as Sociotechnical Critique

Defining Humanity and Personhood: Science fiction consistently examines the boundaries of humanity, consciousness, and moral status—questions that have become increasingly urgent in the contexts of artificial intelligence and synthetic biology [17]. By interrogating whether personhood arises from biological origin, cognitive capacity, or social recognition, these narratives directly inform contemporary debates on AI rights and ethical governance [16].

Envisioning Technological Futures: Speculative fiction explores potential trajectories of IT development, highlighting both utopian possibilities and dystopian risks, and thereby supports anticipatory ethics by enabling proactive moral reflection rather than reactive regulation [36, 5].

Fig. 3 Privacy, accuracy, property, and accessibility constitute the core ethical concerns of the information age, forming the theoretical foundation for debates on digital rights, data governance, and algorithmic accountability [**?**].

Shaping Public Opinion and Policy Discourse: Literary works influence public understanding of technological risks and opportunities, shaping the political environment of IT governance. The enduring impact of texts such as 1984 illustrates literature's power to mobilize concern over surveillance, privacy, and state authority [21].

Predicting Human Responses to Technology: Depictions of technologically mediated behaviour provide insight into possible patterns of exploitation, adaptation, and resistance, complementing empirical research by identifying ethically significant future scenarios [38].

Pedagogical Applications: Science fiction offers an effective tool for ethics education in IT, presenting accessible narrative case studies that connect abstract ethical principles to concrete technological situations [7].

6 Interpretive Text Analysis for Ethical Insight

The three primary texts were chosen for their distinct ethical concerns and approaches to technological critique. Orwell's 1984 (1949) examines surveillance, totalitarian control, and linguistic manipulation, depicting state-driven technological oppression. Dick's Do Androids Dream of Electric Sheep? (1968) explores personhood, artificial intelligence, and the moral status of synthetic beings. Eggers' The Circle (2013) shifts Orwellian power from the state to corporations, critiquing data capitalism and technological corporate dominance. Together, these works reflect the socio-technological anxieties of their respective eras, offering a diachronic perspective on evolving ethical issues in information technology [18, 20].

6.1 Analytical Framework and Coding Strategy

This study adopts a dual-layered methodological framework. First, qualitative content analysis systematically examines primary texts to identify themes relevant to IT ethics [28, 37]. Sec-

Fig. 4 Science fiction critiques the ethics of technological progress through imagined futures, shaping moral and legal imagination around justice, personhood, rights, and the ethical consequences of alternative technological paths (Jenks 2000; Tranter 2018; Green, Travis, and Tranter 2024; Baron, Cornea, and Halvorsen 2017; Miller and Bennett 2008).

Fig. 5 Gasper (2019) questions whether technology should be guided at all, while Randell (1984) argues that technological development must remain human-centred. Lyon (2018) further shows that technology complicates traditional understandings of privacy.

ond, interdisciplinary evaluation integrates perspectives from IT ethics, philosophy, and literary studies to situate findings within broader theoretical contexts [12, 41]. A supplementary quantitative component assesses scholarly and cultural impact through citation analysis across academic, journalistic, and popular media sources [14].

6.2 Interdisciplinary Integration

The primary corpus comprises three literary texts selected for their diverse ethical perspectives:

- **Orwell's 1984:** Explores surveillance, privacy erosion, and authoritarian control (Orwell, 1949).
- **Eggers' The Circle:** Critiques corporate governance, digital identity, and algorithmic power (Eggers, 2013).
- **Dick's Do Androids Dream of Electric Sheep?:** Examines AI ethics, consciousness, and the boundaries of humanity (Dick, 1968).

Supplementary materials include peer-reviewed IT ethics scholarship (Floridi, 2013; Mittelstadt et al., 2016), critical literary analyses, and additional speculative fiction such as Chiang's Exhalation (2019) and Le Guin's The Dispossessed (1974), which offer comparative ethical perspectives.

6.3 Validation and Reflexive Positioning

The analytical process comprises three sequential stages:

1. Thematic Analysis: Identification and coding of recurring themes, including surveillance, AI autonomy, data privacy, and algorithmic governance, using NVivo software [4].
2. Comparative Analysis: Alignment of literary themes with contemporary IT ethical issues, including GDPR compliance (Regulation EU 2016/679), AI governance frameworks, and debates surrounding digital rights [31, 42].
3. Contextual Synthesis: Situating findings within interdisciplinary ethical discourse, integrating literary analysis with philosophical ethics and technology studies [5, 23].

This tripartite approach ensures methodological rigour whilst preserving interpretative flexibility [35].

6.4 Participants

While textual analysis forms the primary methodology, expert validation will be obtained through structured consultation with scholars in IT ethics and literary studies, evidenced by peer-reviewed publications or relevant teaching experience. Individuals lacking demonstrated expertise will be excluded. Data will be collected via structured online surveys and semi-structured interviews conducted through Zoom or email. All procedures will comply with ethical research standards, with informed consent secured through participant information sheets and consent forms [6].

6.5 Methods of Assessment/Measurement

Analytical Instruments : The study uses a Textual Analysis Framework to systematically identify ethical dilemmas, narrative strategies, and societal implications embedded within the selected texts [1]. Survey and Interview Instruments will validate thematic interpretations and incorporate expert perspectives. Sample questions will probe issues such as the applicability of 1984 to contemporary surveillance ethics or the influence of speculative fiction on public discourse regarding IT ethics [25].

Analytical Tools: NVivo qualitative data analysis software will facilitate thematic coding and organisational taxonomy [19]. Expert feedback will enhance analytical depth and validity. Citation frequency analysis will be conducted using Google Scholar and Web of Science databases to assess the cultural and academic influence of the primary texts over time [3].

Fig. 6 Science fiction frequently interrogates what constitutes humanity, consciousness, and moral worth—questions that have gained renewed urgency with the rise of artificial intelligence and synthetic biology (Hayles, 1999). These narratives also examine whether personhood is grounded in biology, cognition, or social recognition, directly informing contemporary debates on AI rights and governance (Gunkel, 2018).

Fig. 7 Covers of the three primary literary works analysed in this study—1984 (George Orwell), Do Androids Dream of Electric Sheep? (Philip K. Dick), and The Circle (Dave Eggers). Each text addresses interconnected ethical concerns: surveillance and authoritarian control, artificial intelligence and personhood, and data-driven governance and privacy. Together, these works demonstrate how narratives from different historical periods inform critical reflection on ethical challenges in contemporary AI systems and digital governance.

6.6 Ethical Framework Application

Established ethical frameworks, including consequentialism, deontology, and virtue ethics, will be applied to narrative content to explicate implicit moral reasoning [41]. IT-ethical categories will be derived through abductive reasoning, moving iteratively between textual evidence and theoretical constructs [39].

6.7 Limitations

This study acknowledges several methodological limitations. The selection of three primary texts, whilst representative, cannot encompass the full breadth of literary engagement with IT ethics. The reliance on qualitative interpretation introduces inherent subjectivity, mitigated through expert validation and methodological transparency. Citation analysis captures visibility but not qualitative impact. Finally, the interdisciplinary nature of the research necessitates selective engagement with multiple scholarly traditions, potentially constraining theoretical depth in individual domains [22].

7 Information Technology: Ethical Considerations

Building on earlier discussions of how literature and science fiction pre-emptively frame technology's moral questions, scholarship today identifies concrete ethical tensions in computing. Debates around Artificial Intelligence, Surveillance, Privacy, and Big Data highlight how new capabilities strain longstanding values and rights. Each domain raises its own dilemmas; for example, in AI the focus is on algorithmic fairness and accountability, in surveillance on the balance between security and liberty, in privacy on the individual's control over personal information, and in big data on the risks of opaque, data-driven decision-making. Below we review key issues in each area, drawing on leading thinkers and official principles.

8 Conclusion

This paper has outlined a conceptual framework for examining ethical concerns in information technology through philosophical and literary perspectives, particularly in relation to uncertainty, autonomy, and human dependence on digital systems. Rather than offering a comprehensive analysis, it highlights how these longstanding ideas can provide useful lenses for interpreting emerging challenges in areas such as artificial intelligence and mental health technologies. The discussion points toward several directions for future work, including deeper empirical analysis, expanded textual case studies, and closer integration between technical, ethical, and humanities-based research. By encouraging interdisciplinary dialogue, this approach has the potential to inform more reflective technology design and evaluation practices. Further research is needed to assess how such frameworks can be systematically applied to real-world systems and evolving technological contexts.

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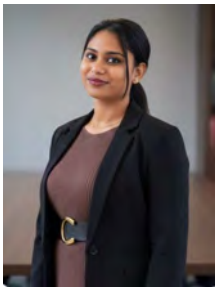

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