Using Science Fiction to Discuss Ethics in Software and Information Systems Among Generation Z Students

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Abstract. *In courses such as Computer Ethics, examples drawn from books, series, films, and games can support the discussion of central topics, making it important to understand students' prior conceptions both about ethics and about the works they are familiar with. This article presents results on how science fiction narratives influence students' ethical perceptions in the computing field, particularly among Generation Z. The study demonstrates that science fiction shapes how young people reflect on ethical dilemmas and the social role of computing. It also reveals a limited familiarity with classic works, suggesting the need to broaden students' cultural repertoire in order to strengthen critical thinking and foster ethical practices that go beyond mere normative compliance.*

1. Introduction

Across history, different understandings of what is "good" or "bad," "evil" or "right," and the "moral" have shaped how social groups define what is ethical. Rather than a static or universal concept, ethics can be seen as historically and socially constructed, reflecting the philosophical and cultural contexts in which it emerges [Little 2016]. In Principles of the Philosophy of Right (1821), Hegel presents ethics as a historical construct arising from the development of the "Objective Spirit", manifested in institutions such as family, civil society, and the State; thus, morality and law are concrete expressions of historical forms of human organization [Hyppolite 1971]. All interlocutors contribute to shaping ethical standards, whether through social interaction or the consumption of ideas disseminated by media, the internet, and art. According to [Schaffer-Landau 2021], ethics is the rational and philosophical study of morality—that is, the codes of conduct guiding human action. Morality may be understood descriptively, as the norms of a group, or normatively, as principles that all rational individuals should follow. Therefore, ethics goes beyond describing practices, seeking to critically evaluate which values and behaviors are justifiable.

With the popularization of personal computers, the Internet and Information Systems, ethical conflicts began to emerge that the population had not previously imagined. Authors such as [Karwoski 2012] who, based on their own time, already seemed to foresee the current scenario regarding the use of digital technologies. In his book, he raises

many important questions about the influence that digital technologies exert on people. Despite these discussions on the topic, it is clear that the laws establishing the foundations of new technologies always advance more slowly than technological progress itself [Masiero 2004]. With each new innovation—whether in hardware or software—a new range of products and services becomes available, requiring discussion for the regulation of these emerging technologies. Amid this ethical debate, various voices stand out: academia, developers, the media, the three branches of government, and even the general public, who are often non-expert on the subject.

In both direct interpersonal communication and mediated contexts—whether through traditional print media or social networks—discussions about ethical values, particularly regarding the use and limits of emerging technologies, often become restricted to repetitive and superficial responses. Classrooms constitute privileged spaces for deeper dialogue, bringing together individuals with diverse backgrounds and perspectives, and students' prior knowledge must be considered, as meaningful learning depends fundamentally on what learners already know [Ausubel 1968]. Works of art, especially fiction, emerge as influential formative agents capable of conveying enduring and nuanced perspectives. Books, films, series, animations, and games shape moral imagination by exploring hypothetical scenarios and ethical tensions, often anticipating dilemmas later intensified by technological advances. The rapid development of artificial intelligence, particularly since the 2000s with the expansion of machine learning and neural networks, has amplified ethical debates across domains. As AI systems increasingly influence human life, responsibilities in areas such as requirements engineering have shifted toward data-driven approaches, sometimes at the expense of stakeholder and ethical concerns [Vogelsang and Borg 2019]. Many of these challenges, however, have long been explored in science fiction, which can function as a moral compass by supporting critical reflection on the societal implications of intelligent systems.

Given this context, and acknowledging the strong communicative and formative power of fiction in shaping perceptions and values, it becomes essential to investigate which works are most frequently recalled by students, which themes are most prominent in their memories, and which ideas most significantly influence their ethical reflections on computing. This study reports findings from a "Computer Ethics" course within an undergraduate Software Engineering program, focusing on how students perceive ethical issues in computing and how these perceptions are influenced by cultural narratives, particularly science fiction. Data were collected through questionnaires and semi-structured interviews, enabling participants to articulate their experiences, values, and reflections regarding the social and moral dimensions of technological development. Beyond mapping students' explicit opinions, the study explores how science fiction narratives operate as formative agents in shaping prior conceptions of morality, responsibility, and the societal role of computing professionals, aiming to understand how cultural imaginaries contribute to ethical awareness and critical thinking within System Information and Computing education.

The paper is organized as follows. Section 2 presents the related work. Section 3 describes the methodology adopted in this study. Section 4 discusses the results obtained and their implications. Finally, Section 5 presents the conclusions, final considerations and outlines directions for future work.

2. Related Work

In the literature, several studies employ science fiction as a pedagogical strategy to support students in identifying and critically examining ethical dilemmas related to artificial intelligence and its societal implications [Burton et al. 2015]. By presenting speculative yet plausible scenarios, these approaches create a safe and imaginative space in which learners can explore questions of responsibility, autonomy, bias, and unintended consequences without the immediate constraints of real-world implementation. Others go further by proposing structured courses entirely dedicated to the intersection between narrative imagination and ethical reflection, such as "Science Fiction and Computational Ethics", offered at the Universities of Kentucky and Illinois [Burton et al. 2018]. These initiatives integrate literary analysis with discussions of professional codes, algorithmic accountability, and emerging technological risks.

Similarly, [da Silva et al. 2024] examined the use of films, series, and literary works as pedagogical resources to stimulate reflection on moral conflicts, the social impacts of technology, and professional responsibility in computing. Their findings suggest that, when carefully designed and pedagogically structured, science fiction can increase student engagement, foster deeper comprehension of ethical principles, and encourage reflective learning that connects theoretical concepts to cultural narratives and practical challenges. Rather than treating ethics as a purely normative or compliance-driven subject, these approaches situate it within broader socio-technical contexts.

However, despite these contributions, prior studies have primarily focused on the effectiveness of fiction as a teaching resource, without systematically investigating students' pre-existing cultural repertoire or prior exposure to science fiction. In contrast, the present work seeks to examine students' backgrounds and references before pedagogical intervention, thereby providing insight into how their initial cultural frameworks may shape ethical perception and learning outcomes.

3. Methodology

According to [MASIERO 2004], the main stakeholders interested in understanding issues related to ethics in computing are students enrolled in programs directly connected to the field of computing. We can infer that all programs—such as Computer Science, Information Systems, and Software Engineering, for example—fall within the broader area of computing and should therefore be included in this scope. Consequently, it is the responsibility of these students to comprehend both the past and the future of the discipline, critically examining philosophical, technical, and aesthetic issues that are relevant to its development. [Blundell 2020] further adds that these professionals bear broad responsibilities-not only technical ones, but also social, environmental, and moral.

For this study, participants were students enrolled in the "Ethics in Computing" course within the Bachelor of Software Engineering program at the Federal University of Lavras (UFLA), Paraíso campus. The group consisted exclusively of Generation Z students, aged 19–21, as this generation represents the majority of incoming students at the Academic Unit. The primary objective was to map students' prior conceptions of ethics in computing. This investigation aimed to identify works familiar to students that could support classroom discussions, while also ensuring that classical works were not neglected. Accordingly, we sought to address the following research questions:

- **RQ1** - Which works of fiction (e.g., books, films, or series) that address ethical issues in computing are the students familiar with?
- **RQ2** - Are the students able to identify the main ethical dilemmas or issues presented in these works?
- **RQ3** - To what extent are the students able to relate the ethical concerns depicted in these fictional works to real-world scenarios in computing and technology?

In this section, we present the questionnaire developed for this investigation with the students and describe how it was administered.

3.1. The Questionnaire

A questionnaire was adopted as the instrument for collecting data from the students in order to address the guiding research questions [Mendonça 2017]. A structured questionnaire was designed, consisting of logically organized questions suitable for investigating the core aspects of the problem under study. The developed instrument comprises 12 questions aimed at assessing the respondents' level of understanding regarding the topic of ethics in computing. The questions were divided into six blocks, with two questions in each block, and each block was associated with a specific secondary objective. The sequence of questions was carefully planned to progress from broader, introductory topics to deeper and more specific ones. The research questions are addressed through specific sets of questionnaire items: Q1–Q2 (RQ1), Q3–Q5 (RQ2), and Q6–Q12 (RQ3). The questions are reported in Table 1.

Table 1. Questionnaire on Ethics in Science Fiction and Computing

Block	ID	Question
Block 1 – Knowledge of the Works	Q1	Which science fiction works (books, films, series, games, animations, or other productions) have you encountered that address artificial intelligence, robotics, or technological dilemmas?
	Q2	Has any of these works influenced your thinking about ethics in computing? If so, which one(s) and in what way?
Block 2 – Discussed Problems	Q3	In these works you know, what were the main ethical dilemmas or conflicts faced by machines, programmers, or human societies?
	Q4	Do you remember any case where an AI or technology followed a rule to the letter and that generated a moral problem? For example, situations where AIs make decisions that affect human beings, or robots face moral conflicts.
Block 3 – Solutions Proposed in the Works	Q5	How did the authors or characters in these stories attempt to resolve the dilemmas presented? Did any solution catch your attention?
	Q6	In your view, would these solutions work in the real world or would they remain limited to the realm of fiction? Why?
Block 4 – Comparison with Reality	Q7	Do you see parallels between the problems depicted in these stories and current challenges in computing, such as generative AI, self-driving cars, or digital surveillance?
	Q8	If we consider concepts like Asimov's Laws of Robotics, do you think they would be applicable or insufficient given today's technological complexity?
Block 5 – Personal Reflection	Q9	What have these fictional narratives taught you about ethical responsibility in technology development?
	Q10	Are there any specific science fiction lessons you consider important for those working with AI or ethical computing?
Block 6 – Real-world Application and Experiences	Q11	After learning about these stories, how do you apply or plan to apply ethical concepts in your work with technology?
	Q12	In your academic or professional practice, have you ever encountered a situation that resembled the dilemmas presented in fiction? How did you deal with it?

First Block - Knowledge of the Works. The first block of questions aims to map the works with which respondents are already familiar. This initial stage is crucial, as it reveals the cultural foundation on which they have built their perceptions of ethics in information systems. Identifying the films, series, anime, or games that students know—and that address ethical and moral dilemmas—provides a valuable teaching strategy, using

accessible references as starting points for discussion. These narratives portray complex ethical conflicts, making abstract concepts more concrete and relatable. This approach boosts student engagement by linking their cultural consumption to real-world issues, such as artificial intelligence, surveillance, privacy, data manipulation, and algorithmic responsibility. Furthermore, classroom analysis of these works fosters critical thinking and encourages reflection on the social responsibilities of technology professionals. Overall, incorporating such cultural references enriches learning, making it more dynamic, participatory, and relevant to students' lives.

Second Block - Discussed Problems. Once the references have been mapped, the second block focuses on the problems presented in these works. Here, the intention is not merely to confirm whether the interviewee has watched or read the works, but to assess whether they are able to identify the moral dilemmas contained within them. Science fiction narratives are rich in ethical conflicts: robots that follow rules literally and cause tragedies, artificial intelligences that prioritize the collective over the individual, or human societies that give up freedom in exchange for security. By asking the interviewee to describe these problems, one evaluates their capacity for critical analysis and ethical interpretation of the narratives.

Third Block - Solutions Proposed in the Works. The third block, which addresses the proposed solutions, deepens the reflection. Recognizing dilemmas is not sufficient; it is also necessary to examine how the works attempt to resolve them. Some stories resort to rigid codes, such as the Laws of Robotics; others explore the role of human free will; while some highlight the very impossibility of a definitive solution. By asking the interviewee to evaluate these responses, space is created to assess their ability to distinguish between effective narrative metaphors and approaches that could, in fact, inspire real regulations or practices in computing.

Fourth Block - Comparison with Reality. In the fourth block, the comparison with reality takes place. At this point, the interview establishes a direct bridge between fiction and the present. It is here that one can observe whether the interviewee perceives parallels between fictional narratives and concrete dilemmas such as the ethical use of generative artificial intelligence, the risks of autonomous vehicles, digital surveillance, or algorithmic bias. By establishing this connection, fiction ceases to be mere entertainment and is instead viewed as an anticipation of problems that are already before us.

Fifth Block - Personal Reflection. In the fifth block, the questions seek a personal reflection, inviting the interviewee to relate these issues to their own experience. Asking what these works have taught them about ethical responsibility, or whether they have experienced similar dilemmas in their work or studies, helps to reveal whether learning from fiction was merely passive or whether it was transformed into an applicable repertoire. This stage is essential for understanding not only what the interviewee has read or watched, but how they have internalized these lessons and translated them into ethical practices or convictions within computing.

Sixth Block - Real-world Application and Experiences. Finally, the sixth block aims to verify whether the interviewee is able to draw parallels between fiction and reality by proposing scenarios in which lessons learned from fictional works could be applied. Here, the goal is to observe whether the interviewee has experienced situations that they

considered ethically conflicting, allowing for a deeper assessment of how fiction-informed ethical reasoning manifests in real-world contexts.

3.2. Questionnaire Administration

The questionnaire is structured to begin with the cultural repertoire, proceed to the critical analysis of dilemmas, examine solutions, connect with reality, and culminate in personal experience. This flow allows not only mapping the interviewees' backgrounds but also evaluating their intellectual maturity in addressing ethics in technology, understanding fiction as fertile ground for reflection rather than mere distant inspiration. Before administering the questionnaires, a dialogue was held with students to explain the study's nature, present its motivation, and introduce the questionnaire. Volunteers were informed about the data collection consent form, and examples of how art has historically anticipated ethical discussions in computing were discussed to clarify the objectives.

An example from the literature was presented: Isaac Asimov's "Three Laws of Robotics", first introduced in the short story "Runaround" (1942) [Asimov 1942] and later consolidated in the collection I, Robot (1950) [Asimov 2015], Portuguese edition by Editora Aleph [Asimov 2015]. Supporting texts [Clarke 2002, Sawyer 2007, Anderson 2011, Tzafestas 2018] were used to discuss the laws' applications and limitations. With this example, interviewees reflected on works that remained vivid in their memories and influenced their ethical conceptions, considering the problems presented, their resolution, and whether the challenges were overcome. Students' verbal interactions were also noted, preparing them to access prior knowledge and experiences relevant to the questionnaire items.

4. Results and Analysis

Beyond the administered questionnaires, a conversation was held with the students to elicit supplementary information and facilitate an initial warm-up. The data gathered from this oral interaction will be utilized to complement and justify the questionnaire responses. Regardless, the questionnaire remains the central guiding element for the presentation and discussion of the findings. We here report the results and an analysis of the answers obtained for the questions of each block. The complete responses can be accessed at `https://github.com/ProfessorSincler/Etica2025`.

4.1. Results from Block 1 - Knowledge of the Works

The first block of questions mapped the fiction works with which respondents were familiar, revealing the cultural foundations shaping their perceptions of ethics in technology. This stage identified whether references were broad or limited and whether they were primarily literary, cinematic, or from other media, highlighting the ethical imaginaries influencing views on information systems and technological responsibility. Regarding **question Q1**, most respondents cited no more than three works, reflecting the most readily accessible memories rather than a lack of knowledge. Two students cited a larger number of works—8 and 13, spanning films, series, animations, and games (see Table 2). The most recent work cited was the film M3GAN [m3g 2022], while the oldest was Star Trek: The Original Series [Roddenberry 1969], and for films specifically, the earliest was 2001: A Space Odyssey [kub 1968], showing a broad temporal range. However, works

from 1966–1982 were rarely cited, indicating concentration on contemporary titles. Despite accessibility via streaming and remakes, classic works received few mentions, with students favoring content targeted to their generation. All participants reported limited current reading habits, with audiovisual consumption confined to streaming platforms and occasional informal use of illegal access to older or recommended films.

Table 2. Catalogue of mentioned works by type and year

Type	Original Title	Title in Portuguese (Brazil)	Year of Release
Movie	2001: A Space Odyssey	2001: Uma Odisseia no Espaço	1968
	Star Wars: Episode IV – A New Hope	Star Wars: Episódio IV – Uma Nova Esperança	1977
	Blade Runner	Blade Runner: O Caçador de Andróides	1982
	The Terminator	O Exterminador do Futuro	1984
	RoboCop	RoboCop	1987
	The Matrix	Matrix	1999
	Transformers	Transformers	2007
	Astro Boy	Astro Boy	2009
	Real Steel	Gigantes de Aço	2011
	Robot & Frank	Uma História de Amor e Robôs	2012
	Lucy	Lucy	2014
	Ex Machina	Ex Machina: Instinto Artificial	2014
	Rupture	Rupture	2016
	The Social Dilemma	O Dilema das Redes	2020
	M3GAN	M3GAN	2022
	Dune	Duna	2021
Series	Star Trek: The Original Series	Jornada nas Estrelas	1966
	Power Rangers	Power Rangers	1993
	Black Mirror	Black Mirror	2011
	Henry Danger	Henry Danger	2014
Animation	Dragon Ball	Dragon Ball	1986
	Ghost in the Shell (Kōkaku Kidōtai)	Ghost in the Shell: O Fantasma do Futuro	1995
	Cowboy Bebop	Cowboy Bebop	1998
	The Iron Giant	O Gigante de Ferro	1999
	Totally Spies!	Três Espiãs Demais	2001
	Robots	Robôs	2005
	WALL·E	WALL·E	2008
	Big Hero 6	Operação Big Hero	2014
	Arcane	Arcane	2021
Game	Batman: Arkham Knight	Batman: Arkham Knight	2015
	Detroit: Become Human	Detroit: Become Human	2018
	Cyberpunk 2077	Cyberpunk 2077	2020
Book	The Hunger Games	Jogos Vorazes	2008

Responses to **question Q2** revealed that cinema, literature, animation, and games significantly influence students' ethical reasoning in computing. While most responses were general, such as "It influenced me to reflect on life" or "To value the real world more," some connected to current human-computer interaction issues like "Social media addiction" or "AI dependency." Concerns also arose about systems spinning out of control, particularly autonomous vehicles and drones for civilian or military use. Many of these ideas stem from apprehensions that AI might gain independence and act uncontrollably, potentially harming individuals and society.

4.2. Results from Block 2 - Discussed Problems

According to [Khan et al. 2023], the main aspects of ethical requirements include transparency, privacy, accountability, fairness, autonomy, explainability, equity, non-maleficence, human dignity, beneficence, security, responsibility, data protection, sustainability, freedom, solidarity, prosperity, efficacy, accuracy, predictability, and interpretability. In **question Q3**, respondents were asked about ethical dilemmas or conflicts

faced by machines, programmers, or society in the cited works. Responses can be divided into two categories: the first focuses on the social and personal impacts of computing, particularly from social networks and online exposure. Students highlighted themes such as “image over well-being,” “gamification through likes,” “inequalities generated by engagement,” and “consumption,” emphasizing social media’s role in manipulating human behavior. They cited works addressing subtle technological advances that influence users without awareness and explored technology as a means of domination over large groups or humanity as a whole.

The second category includes responses related to the “war of the machines,” involving loss of control over technology, threats to human lives, and dilemmas when machines, robots, or systems follow instructions literally, potentially causing unintended consequences. Only a few responses touched on deeper philosophical questions, such as whether AI could be considered a form of life. Overall, students recognized central ethical dilemmas in cultural works about technology and society, focusing mostly on practical issues like technology use, behavioral manipulation, and social inequalities, while also showing awareness of human-machine relationships and classical ethical conflicts, which foreshadows **question Q4**, where most could recall fictional situations in which AI decisions affect humans or where systems face moral conflicts.

4.3. Results from Block 3 - Solutions Proposed in the Works

When asked about the attempts to resolve ethical dilemmas in science fiction works, addressed in **question Q5**, respondents were expected to reference works featuring a variety of solutions—some more realistic, others more ingenious or controversial. However, many students were unable to recall specific resolutions or cited works in which the dilemmas remained unresolved. This category also includes narratives where the characters made no significant effort to address the proposed moral or ethical conflict. Another group highlighted solutions involving reprogramming or scenarios in which the systems themselves resolved the issues without violating their established programming rules. In contrast, some resolutions were achieved not through modifications to the technology but by altering human behavior.

Complementing the previous responses, **question Q6** elicited highly varied answers regarding the applicability of fictional solutions to real-world problems. Ideally, these responses should reflect the scale and nature of the dilemmas presented. According to the students, our current reality lacks global surveillance systems or advanced robots equipped with powerful AI serving everyday needs; nevertheless, the rapid evolution of information systems—and their applications in smart cities, surveillance technologies, and robotics—may bring such scenarios closer than many realize. Other respondents focused on more immediate and tangible issues, such as those associated with social media and contemporary AI. The spectrum of answers ranged from outright dismissal of applicability (“These are very surreal things”) to conditional hypotheses (“It would depend on the people” or “They would be quite possible”), and finally to assertions of existing real-world implementation, as exemplified by one student’s remark: “I think it’s already in practice in the real world.”.

4.4. Results from Block 4 - Comparison with Reality

The students’ responses reveal varying levels of critical awareness regarding the relationship between fiction and technological reality. In the answers to **question Q7** that exam-

ines whether students perceive parallels between fictional narratives and current ethical challenges in computing, some students recognize the inevitability of ethical and social dilemmas associated with technology, as reflected in statements such as "The world is exactly like this; there will always be problems" and "the problem related to how users use technology exists and will always exist," indicating a broader and enduring perspective. Others adopt a more technical view, linking risks to specific issues such as the training of artificial intelligences. Signs of skepticism also appear in statements like "at the moment I do not feel it would be possible," suggesting that some students still see these challenges as distant. Finally, the response "we would not be able to solve it, not even with regulation" highlights perceptions of structural limitations and the slow pace of legislative responses. Overall, these views show that students oscillate between seeing computing ethics as a timeless issue, an immediate technical concern, or a problem difficult to regulate.

In **question Q8**, the focus shifted from broad ethical issues to a specific application scenario, the application of Asimov's Laws. While responses often began with "Yes" or "No," they evolved into more nuanced reflections. Statements such as "...they would be, but I do not know to what extent they would work..." and "Yes, but they would be insufficient" reveal confidence in the possibility of technical solutions alongside uncertainty about their effectiveness and limits. Despite differing opinions, most students expressed concern about developer responsibility. Collectively, these responses suggest that Asimov's Laws are viewed less as definitive solutions and more as a symbolic framework that requires expansion and contextualization to address current challenges in computing and artificial intelligence.

4.5. Results from Block 5 - Personal Reflection

Considering **question Q9**, responses regarding ethical responsibility in technology development indicate that students draw practical lessons from fictional narratives. They emphasize caution when sharing information online, reflecting concerns about data protection and privacy, and refer to general values such as respect for life and awareness of technology's benefits and risks. Students also mention the need for safety measures in case systems fail and recognize that machines and automated systems may surpass human capabilities, thereby increasing ethical responsibility in their design and use. Overall, these responses suggest that fiction helps students anticipate ethical challenges and reflect on the responsibilities of professionals and society in technological development.

In contrast, question **Q10**—which examines whether students translate fictional narratives into practical computing ethics—reveals both potential and limitations. Some responses (e.g., "I didn't understand") indicate difficulty connecting fiction to real dilemmas, underscoring the need for pedagogical support. Others reflect ethical reasoning, such as precaution ("Do not underestimate technology"), legal awareness (legislation and privacy), and concern for impartiality and AI bias ("training AI to provide both sides"). Mentions of "Yes" or "Asimov's 3 laws" show reliance on classic frameworks. Overall, the results suggest that science fiction promotes reflection on both general principles and contemporary issues, bridging imagination and technological reality.

4.6. Results from Block 6 - Real-world Application and Experiences

Finally, in the last block of questions, the responses to **question Q11** indicate that students linked the ethical concepts found in science fiction to a more cautious and reflective stance

regarding technology. Several statements highlighted the importance of anticipating various possibilities, considering long-term impacts, and identifying potential conflicts. Prudence emerged as a recurring theme; notably, the phrase "always with care" was repeated three times, demonstrating that most participants associate ethics with acting attentively. Some respondents also acknowledged a need to delve deeper into the subject, while others shifted the responsibility to legislation, viewing ethics as a matter to be ensured by external regulations.

Regarding **question Q12**, the majority answered "no", suggesting they have not yet directly encountered significant ethical dilemmas in their academic or professional lives. However, a few exceptions were notable: one student reported noticing, as a user, that a system collected more personal information than authorized, linking this experience to the real-world issue of digital privacy. Two others stated they had faced situations similar to those portrayed in fiction, though without providing specific details. This suggests that, despite a lack of direct experience, students are already capable of recognizing concrete parallels between fictional dilemmas and contemporary technological challenges.

5. Conclusions and Final Considerations

In this work, we investigated how Generation Z students perceive the impact of fictional works on ethical discussions by analyzing their vivid references and examples of dilemmas faced by developers, systems, and robots. Data were collected via physical questionnaires and oral contributions in a facilitated discussion circle, complemented by observations. This qualitative, exploratory study involved a small group and relied on descriptive, interpretive analysis without a formal systematic procedure. Triangulation could be strengthened to mitigate the main threat to validity—partial interpretation. Key outcomes include response categories ensuring traceability from raw data to analytical inferences.

Responses reveal an initial yet consistent level of ethical sensitivity and critical thinking. Students connected fictional narratives to real-world digital society challenges, recognizing that many ethical dilemmas lack simple solutions. Some proposed technical or narrative resolutions, while others saw the absence of solutions as intentional reflection. Many acknowledged that conflict resolution depends more on human decisions than technology, showing critical understanding of ethical complexity in automated systems. Discussions of Asimov's Laws highlighted limitations and emphasized legislation, developer responsibility, bias mitigation, and privacy protection.

Overall, the findings underscore the role of educators in introducing literature, film, and television to foster ethical reflection in computing and system information education, and the need for institutions to provide access through video libraries and literary collections alongside technical materials. Although students often cite legislation as the main solution and report limited direct experience, the data suggest a foundation for deeper academic engagement and pedagogical development of moral autonomy and responsibility. Future research will expand this exploratory phase to broader quantitative studies, comparing generations and involving independent researchers to strengthen triangulation and interpretive reliability.

Ethical Issues and Artificial Intelligence Use

This study followed SBC ethical guidelines: participation was voluntary, data anonymized, and no risks involved; ChatGPT was used only for writing and revision.

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Samira Silva: Adjunct Professor at the Federal University of Lavras (UFLA). She holds a Ph.D. in Computer Science from the Gran Sasso Science Institute (GSSI) and a Master's degree in Computer Science from the Federal University of Minas Gerais (UFMG). She earned her Bachelor's degree in Computer Science from the Federal University of Ouro Preto (UFOP) in 2014. She served as a lecturer at the State University of Minas Gerais (UEMG) between 2019 and 2020. She also worked at the Fundação Universidade de Itaúna in 2018 and at the Department of Computing and Information Systems at UFOP from 2016 to 2018 as a lecturer. Her most recent research project focuses on Software Testing, a subarea within Software Engineering. She has a strong interest in Self-Adaptive Systems, Software Testing, Software Engineering, and Software Architecture.