

Original Article

# The Relevance of History Learning in the Age of Artificial Intelligence: Understanding its Impact on Critical Thinking and Ethical Decision-Making

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**Abstract** - In the age of Artificial Intelligence (AI), understanding the relevance of history learning is crucial for fostering critical thinking and ethical decision-making. This abstract explores how historical knowledge serves as a framework for evaluating the impact of AI on society. By studying historical trends and events, individuals gain insight into the consequences of technological advancements, enabling them to analyze the ethical implications of AI systems critically. Furthermore, historical context provides a foundation for understanding the complexities of human behavior and societal dynamics, which are essential for developing AI systems that align with ethical principles. Through history learning, individuals can navigate the ethical challenges posed by AI and make informed decisions about its development and implementation, thus ensuring a future where technology serves humanity's best interests.

**Keywords** - History learning, Artificial Intelligence, Critical thinking, Ethical decision-making, Impact.

## 1. Introduction

In the rapidly evolving age of Artificial Intelligence (AI), the relevance of traditional educational disciplines, such as history, is increasingly questioned. Amidst the surge of STEM-focused curricula, the importance of humanities often appears diminished. However, there is a significant research gap in understanding how history learning contributes to critical thinking and ethical decision-making in an AI-dominated world. This gap is crucial as we navigate an era where AI systems significantly influence various aspects of life, from social interactions to policy-making.

The central problem revolves around the under-appreciation and under-utilization of history education in fostering essential skills for the contemporary digital age. As AI systems become more prevalent, there is a pressing need for individuals who can critically assess and ethically navigate the implications of these technologies. History, as a discipline, offers unique insights into human behavior, societal evolution, and moral reasoning, which are vital for developing these skills. The narrative and analytical skills honed through historical study enable individuals to draw parallels between past and present, foresee potential future challenges, and formulate reasoned, ethical decisions.



One aspect of this problem is that current educational policies and curricula often prioritize technical skills over the humanities, influenced by the perception that AI and technological proficiency are paramount for future success. However, this overlooks the role of history in providing a comprehensive understanding of societal contexts and human experiences, which are essential for critical thinking. Historical knowledge allows individuals to question underlying assumptions, understand diverse perspectives, and recognize the complexity of human decisions and actions over time (Wineburg, 2001).

Moreover, the ethical challenges posed by AI, such as bias, accountability, and privacy, necessitate a strong foundation in ethical reasoning. History education provides numerous case studies of ethical dilemmas, successes, and failures, offering a rich resource for developing ethical frameworks applicable to modern AI challenges (Nussbaum, 2010). Understanding the historical context of technological advancements and their societal impacts can inform more ethical AI development and implementation practices.

There is a substantial research gap in exploring how history education can enhance critical thinking and ethical decision-making in the context of AI. Addressing this gap involves re-evaluating educational priorities to integrate history more effectively into curricula, ensuring that students develop a balanced skill set that includes both technical proficiency and a deep understanding of humanistic principles. By bridging this gap, we can better prepare individuals to navigate the complexities of the AI age with critical insight and ethical integrity.

In today's rapidly advancing technological landscape, the intersection of history learning and Artificial Intelligence (AI) presents profound implications for critical thinking and ethical decision-making. As AI systems become increasingly prevalent in various aspects of society, it is essential to understand their historical context and the lessons learned from past technological revolutions. Historical knowledge provides valuable insights into how technological advancements have shaped human societies, both positively and negatively (Aronica & Ramduny-Ellis, 2018). By examining the historical trajectory of innovation, individuals can develop a nuanced understanding of the societal impacts of AI, enabling them to assess its implications for humanity critically.

Moreover, history learning serves as a critical tool for fostering critical thinking skills in the age of AI. Through the study of historical events and their consequences, individuals can analyze complex issues, question assumptions, and evaluate the potential risks and benefits of emerging technologies (Churchill, 2018). This historical perspective encourages a more thoughtful and informed approach to decision-making, helping individuals navigate the ethical dilemmas posed by AI systems (Floridi, 2019). By drawing on historical precedents, individuals can anticipate potential pitfalls and design AI systems that prioritize ethical considerations (Vallor, 2016)

Furthermore, understanding the historical context of technological innovation is essential for ensuring that AI development and deployment align with ethical principles and societal values. By examining past instances where technological advancements have led to unintended consequences or ethical dilemmas, policymakers, engineers, and ethicists can proactively address potential risks and mitigate harm (Kaplan & Haenlein, 2019). History learning provides a framework for evaluating the ethical implications of AI systems, enabling stakeholders to make informed decisions about their design, regulation, and use (Russell & Norvig, 2021). In this way, history learning plays a vital role in guiding ethical decision-making in the age of artificial intelligence.

## 2. Literature Review

The relevance of history learning in the context of Artificial Intelligence (AI) has been increasingly recognized as critical for fostering both critical thinking and ethical decision-making. Aronica and Ramduny-Ellis (2018) argue that historical knowledge is essential for understanding the societal implications of AI, drawing parallels between past technological revolutions and the current AI era. This sentiment is echoed by Churchill (2018), who suggests

that AI-assisted historical research can provide valuable insights into how technology shapes human societies, enabling individuals to critically assess the impact of AI on various aspects of life.

Moreover, history learning serves as a foundation for cultivating critical thinking skills necessary for navigating the complexities of the AI age. By studying historical events and their consequences, individuals can develop the ability to analyze information critically, question assumptions, and evaluate the ethical implications of AI systems (Floridi, 2019). This perspective encourages a more nuanced understanding of AI's potential risks and benefits, helping individuals make informed decisions about its development and deployment (Vallor, 2016). Additionally, Kuhn (2012) suggests that historical context can provide insight into the limitations of AI and the challenges it may pose to human decision-making, further emphasizing the importance of history learning in the AI age.

Furthermore, history learning plays a crucial role in guiding ethical decision-making in the development and use of AI systems. Kaplan and Haenlein (2019) argue that understanding the historical context of technological innovation is essential for identifying and addressing ethical concerns associated with AI. Drawing on historical precedents, policymakers, engineers, and ethicists can anticipate potential risks and design AI systems that prioritize ethical considerations (Russell & Norvig, 2021). This approach aligns with the broader goal of ensuring that AI development and deployment are ethically sound and uphold societal values (Floridi, 2019). Therefore, history learning serves as a critical tool for navigating the ethical challenges posed by AI and shaping a future where technology serves humanity's best interests.

In addition to its role in fostering critical thinking and ethical decision-making, history learning offers insights into the broader societal implications of AI. Gray (2015) suggests that historical perspectives can shed light on the relationship between technology and human freedom, helping individuals understand the potential consequences of AI for individual autonomy and societal structures. Similarly, Morozov (2013) argues that historical knowledge can provide a counterbalance to techno-optimism, allowing for a more nuanced understanding of the risks and challenges associated with AI adoption. By studying historical examples of technological change, individuals can better anticipate and address the social, political, and economic disruptions that may accompany widespread AI implementation.

Furthermore, history learning encourages a critical examination of the values and assumptions embedded in AI systems. Vallor (2016) emphasizes the importance of cultivating virtue ethics in the development and use of AI, drawing on historical philosophical traditions to inform ethical decision-making. Through the study of history, individuals can reflect on past ethical dilemmas and apply lessons learned to navigate contemporary challenges posed by AI (Susskind & Susskind, 2019). This process facilitates a deeper understanding of the ethical implications of AI technologies and encourages stakeholders to consider the broader societal consequences of their actions (Kitchin, 2017).

Moreover, history learning can help individuals recognize the limitations of AI and the importance of human judgment in ethical decision-making. Morozov (2019) argues that the belief in technological solutions to complex social problems, known as "technological solutionism," is often misguided and can overlook the unique capabilities of human reasoning and intuition. By studying historical examples of moral reasoning and ethical decision-making, individuals can develop a more holistic perspective on the role of AI in society and the need to complement technological advancements with human wisdom and judgment (West, 2018). This recognition underscores the importance of history learning in cultivating a balanced approach to AI development and deployment that prioritizes both technological innovation and human well-being.

The literature on the relevance of history learning in the age of Artificial Intelligence (AI) underscores its pivotal role in fostering critical thinking and ethical decision-making. Scholars like Wineburg (2001) highlight that

historical thinking cultivates skills in analysis, contextualization, and perspective-taking, which are essential for critical assessment and problem-solving. Nussbaum (2010) argues for the importance of humanities in developing ethical reasoning, suggesting that historical case studies provide rich contexts for understanding complex moral issues. In the context of AI, Crawford (2021) and O'Neil (2016) discuss the ethical challenges and biases inherent in AI systems, emphasizing the need for a robust ethical framework to navigate these issues. Historical insights into human behavior and societal impacts of technological advancements can inform this framework. Integrating history education with AI curricula, as Shneiderman (2020) suggests, can lead to more balanced and responsible technology development, ensuring that technological progress is aligned with human values and ethical principles. The existing literature thus provides a comprehensive background on how historical learning can enrich the development of critical and ethical competencies in the AI era.

### **2.1. Research Gap**

While existing literature emphasizes the importance of history learning in the age of Artificial Intelligence (AI) for fostering critical thinking and ethical decision-making, there is a research gap in understanding how different historical perspectives and methodologies can inform AI development and deployment. While some studies have explored the broader societal implications of AI through historical analysis, there is limited research on specific historical case studies or methodologies that can guide ethical AI design and implementation. Additionally, there is a need for empirical research that examines the effectiveness of incorporating historical knowledge into AI education and training programs, particularly in terms of its impact on critical thinking skills and ethical decision-making among AI developers, policymakers, and other stakeholders. Furthermore, while virtue ethics and philosophical traditions have been referenced in discussions on AI ethics, there is a lack of research that explores how historical ethical frameworks can be practically applied in the context of AI development and regulation. Addressing these gaps could provide valuable insights into leveraging history learning to navigate the ethical challenges posed by AI and ensure that technological advancements align with societal values and human well-being.

## **3. Methodology**

The synthesis of sources highlights the critical role of history learning in the age of Artificial Intelligence (AI) for enhancing critical thinking and ethical decision-making. Aronica and Ramduny-Ellis (2018) argue that historical knowledge offers valuable insights into the societal implications of AI, drawing parallels between past technological revolutions and the current AI era. Furthermore, Churchill (2018) suggests that AI-assisted historical research enables individuals to critically assess the impact of AI on various aspects of life, fostering a deeper understanding of the complex relationship between technology and society. By studying historical events and ethical dilemmas, individuals can develop the critical thinking skills necessary to navigate the ethical challenges posed by AI (Floridi, 2019). Additionally, Kaplan and Haenlein (2019) emphasize the importance of historical context in guiding ethical decision-making in AI development, enabling stakeholders to anticipate potential risks and design AI systems that align with ethical principles. By synthesizing these perspectives, it becomes evident that history learning serves as a crucial foundation for addressing the ethical and societal implications of AI, ensuring that technological advancements contribute positively to human well-being and societal progress.

## **4. Findings and Discussions**

The findings indicate that history learning plays a crucial role in enhancing critical thinking skills and guiding ethical decision-making in the age of Artificial Intelligence (AI). Through the examination of historical events and their societal impacts, individuals can develop a deeper understanding of the consequences of technological advancements, allowing them to anticipate and mitigate potential risks associated with AI adoption (Aronica & Ramduny-Ellis, 2018). This historical perspective enables stakeholders to critically assess the implications of AI on various aspects of life and make informed decisions about its development and deployment (Churchill, 2018).

Furthermore, history learning encourages a nuanced understanding of the complex relationship between technology and society, fostering critical thinking skills necessary for navigating the challenges posed by AI (Floridi, 2019). By analyzing historical precedents, individuals can question assumptions, evaluate information critically, and anticipate potential ethical dilemmas associated with AI systems (Kuhn, 2012). This critical perspective helps individuals navigate the ethical complexities of AI development and deployment, ensuring that technological advancements align with societal values and human well-being.

Moreover, history learning provides a framework for guiding ethical decision-making in AI development and regulation. By drawing on historical lessons, policymakers, engineers, and ethicists can identify and address ethical concerns associated with AI, such as privacy, bias, and job displacement (Kaplan & Haenlein, 2019). Additionally, understanding the historical context of technological innovation enables stakeholders to design AI systems that prioritize ethical considerations and mitigate potential harm (Russell & Norvig, 2021). This integrated approach ensures that ethical principles guide AI development and deployment and contribute positively to human welfare and societal progress.

Further investigation reveals that history learning not only enhances critical thinking and ethical decision-making but also contributes to a deeper understanding of the broader societal implications of AI. Gray (2015) suggests that historical perspectives shed light on the relationship between technology and human freedom, allowing individuals to grasp the potential consequences of AI for individual autonomy and societal structures. Moreover, Morozov (2013) argues that historical knowledge provides a counterbalance to techno-optimism, enabling a more comprehensive understanding of the risks and challenges associated with AI adoption. By studying historical examples of technological change, individuals can better anticipate and address the social, political, and economic disruptions that may accompany widespread AI implementation.

Additionally, history learning facilitates a critical examination of the values and assumptions embedded in AI systems, guiding ethical decision-making processes. Vallor (2016) emphasizes the importance of cultivating virtue ethics in AI development, drawing on historical philosophical traditions to inform ethical decision-making. Through the study of history, individuals can reflect on past ethical dilemmas and apply lessons learned to navigate contemporary challenges posed by AI (Susskind & Susskind, 2019). This process fosters a more comprehensive understanding of the ethical implications of AI technologies and encourages stakeholders to consider the broader societal consequences of their actions (Kitchin, 2017).

Furthermore, history learning helps individuals recognize the limitations of AI and the significance of human judgment in ethical decision-making. Morozov (2019) argues that the belief in technological solutions to complex social problems, known as "technological solutionism," is often misguided and can overlook the unique capabilities of human reasoning and intuition. By studying historical examples of moral reasoning and ethical decision-making, individuals can develop a more holistic perspective on the role of AI in society and the need to complement technological advancements with human wisdom and judgment (West, 2018). This recognition underscores the importance of history learning in cultivating a balanced approach to AI development and deployment that prioritizes both technological innovation and human well-being.

Moreover, history learning helps individuals understand the evolution of technology and its impact on society, thus enabling them to anticipate potential ethical dilemmas associated with AI. By studying historical examples of technological advancements, individuals can identify patterns of unintended consequences, biases, and ethical challenges that may arise with the introduction of new technologies (Vallor, 2016).

Understanding these historical precedents allows stakeholders to proactively address ethical concerns and design AI systems that minimize harm and maximize societal benefit (Kaplan & Haenlein, 2019). This historical

perspective fosters a more comprehensive understanding of the complex interplay between technology, ethics, and society, empowering individuals to make informed decisions about AI development and deployment.

Furthermore, history learning encourages a critical examination of the ethical implications of AI systems, guiding stakeholders in navigating the ethical complexities of AI development and deployment. Drawing on historical lessons, policymakers, engineers, and ethicists can identify and address ethical concerns such as privacy, bias, and fairness in AI algorithms (Russell & Norvig, 2021). By integrating historical knowledge into AI ethics frameworks, stakeholders can develop more robust guidelines and regulations that ensure AI technologies align with societal values and respect human rights (Floridi, 2019). This approach promotes ethical decision-making in AI development and deployment, contributing to the creation of responsible and accountable AI systems that benefit society as a whole.

Moreover, history learning helps individuals recognize the limitations of AI and the importance of human judgment in ethical decision-making. Morozov (2019) argues that the belief in technological solutions to complex social problems, known as "technological solutionism," is often misguided and can overlook the unique capabilities of human reasoning and intuition. By studying historical examples of moral reasoning and ethical decision-making, individuals can develop a more holistic perspective on the role of AI in society and the need to complement technological advancements with human wisdom and judgment (West, 2018). This recognition underscores the importance of history learning in cultivating a balanced approach to AI development and deployment that prioritizes both technological innovation and human well-being.

Furthermore, history learning provides a valuable framework for understanding the broader societal implications of AI beyond its immediate technological aspects. Gray (2015) suggests that historical perspectives shed light on the relationship between technology and human freedom, allowing individuals to grasp the potential consequences of AI for individual autonomy and societal structures. Moreover, Morozov (2013) argues that historical knowledge provides a counterbalance to techno-optimism, enabling a more comprehensive understanding of the risks and challenges associated with AI adoption. By studying historical examples of technological change, individuals can better anticipate and address the social, political, and economic disruptions that may accompany widespread AI implementation.

Additionally, history learning encourages a critical examination of the values and assumptions embedded in AI systems, guiding ethical decision-making processes. Vallor (2016) emphasizes the importance of cultivating virtue ethics in AI development, drawing on historical philosophical traditions to inform ethical decision-making. Through the study of history, individuals can reflect on past ethical dilemmas and apply lessons learned to navigate contemporary challenges posed by AI (Susskind & Susskind, 2019). This process fosters a more comprehensive understanding of the ethical implications of AI technologies and encourages stakeholders to consider the broader societal consequences of their actions (Kitchin, 2017).

Furthermore, history learning helps individuals recognize the limitations of AI and the significance of human judgment in ethical decision-making. Morozov (2019) argues that the belief in technological solutions to complex social problems, known as "technological solutionism," is often misguided and can overlook the unique capabilities of human reasoning and intuition. By studying historical examples of moral reasoning and ethical decision-making, individuals can develop a more holistic perspective on the role of AI in society and the need to complement technological advancements with human wisdom and judgment (West, 2018). This recognition underscores the importance of history learning in cultivating a balanced approach to AI development and deployment that prioritizes both technological innovation and human well-being.

Artificial Intelligence (AI) plays a pivotal role in decision-making processes across various domains. There are several types of AI utilized in decision-making, including rule-based systems, machine learning algorithms, and deep learning models. Rule-based systems follow explicit if-then rules, making them highly interpretable but limited in complexity. Machine learning algorithms, including supervised and unsupervised learning, enable systems to learn from data and make predictions or classifications. Deep learning, a subset of machine learning, uses neural networks with multiple layers to handle more complex tasks, such as image and speech recognition (Goodfellow et al., 2016). These AI types are integral in enhancing decision-making processes by providing more accurate and efficient solutions.

The importance of decision-making in AI cannot be overstated. Effective decision-making processes are crucial for organizational success, allowing businesses to leverage AI for predictive analytics, risk management, and strategic planning. AI enhances decision-making by providing insights derived from large datasets, identifying patterns, and generating actionable intelligence (Davenport & Ronanki, 2018). However, the quality of data used is paramount. Poor data quality and inherent biases can significantly affect the outcomes of AI systems. Bias in data can lead to skewed results, perpetuating existing inequalities and leading to unfair decision-making (Mehrabi et al., 2021).

Interpretability and explainability are critical in the deployment of AI systems. These concepts refer to the ability to understand and articulate how AI models make decisions. High interpretability and explainability are essential for gaining the trust of users and stakeholders, ensuring that AI-driven decisions are transparent and justifiable (Doshi-Velez & Kim, 2017). Moreover, the adoption and implementation of AI in decision-making face several challenges, including the need for substantial computational resources, integration with existing systems, and addressing ethical concerns. Human-AI collaboration is essential to mitigate these challenges, ensuring that AI systems complement human decision-making rather than replacing it entirely (Shneiderman, 2020).

Algorithmic bias and privacy protection are significant concerns in AI decision-making. Ensuring that AI systems are free from bias requires careful design, continuous monitoring, and the inclusion of diverse datasets (Barocas et al., 2019). Privacy protection involves securing sensitive data and complying with regulations such as GDPR to prevent misuse. Transparency and explainability are also tied to accountability and legal frameworks. Ensuring human oversight and accountability in AI systems is crucial to addressing ethical dilemmas and legal responsibilities. Legal and regulatory frameworks must evolve to keep pace with AI advancements, providing guidelines to ensure responsible AI deployment and safeguarding of public interests (Gasser & Almeida, 2017).

The novelty of exploring the relevance of history learning in the age of Artificial Intelligence (AI) lies in its interdisciplinary approach to bridging the gap between humanities and technology. Unlike traditional studies that often silo historical education and AI, this exploration emphasizes how historical knowledge can significantly enhance critical thinking and ethical decision-making skills, which are essential in addressing contemporary AI challenges. By integrating historical perspectives with AI development, this approach fosters a more holistic educational paradigm that prepares individuals to evaluate technological advancements and their societal impacts critically. This novel integration not only enriches the curriculum but also equips learners with a balanced skill set that includes both analytical rigor and ethical sensitivity, crucial for responsible AI innovation and governance.

## 5. Conclusion

The relevance of history learning in the age of Artificial Intelligence (AI) is paramount for fostering critical thinking and ethical decision-making. Through the study of historical events and their societal impacts, individuals gain insights into the consequences of technological advancements, enabling them to anticipate and mitigate potential risks associated with AI adoption. History learning also provides a framework for understanding the broader societal implications of AI, guiding stakeholders in navigating the ethical complexities of AI development.

and deployment. By drawing on historical lessons, policymakers, engineers, and ethics can identify and address ethical concerns, ensuring that AI technologies align with societal values and respect human rights. Moreover, history learning encourages a critical examination of the values and assumptions embedded in AI systems, fostering a more comprehensive understanding of the ethical implications of AI technologies. Overall, history learning serves as a crucial foundation for addressing the ethical and societal implications of AI, ensuring that technological advancements contribute positively to human well-being and societal progress.

## Data Availability

Data availability on the relevance of history learning in the age of artificial intelligence: understanding its impact on critical thinking and ethical decision-making varies, but resources from academic databases, books, and scholarly articles provide comprehensive insights into this topic.

## Authors' Contributions

In the research on the relevance of history learning in the age of Artificial Intelligence and understanding its impact on critical thinking and ethical decision-making, the authors made several contributions. First, they identified the historical context of technological advancements, examining past instances where innovation has shaped societal values and norms. Second, the authors explored how historical perspectives can inform critical thinking skills, enabling individuals to evaluate the implications of AI on various aspects of life. Third, they investigated the ethical dimensions of AI development and deployment, drawing on historical precedents to anticipate and address potential risks and ethical dilemmas. Fourth, the authors proposed strategies for integrating historical learning into AI education and training programs to foster a more holistic understanding of the societal impacts of technology. Finally, they emphasized the importance of balancing technological innovation with human values and ethical considerations to ensure that AI serves the best interests of society.

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## References

- [1] M. Aronica, and D. Ramduny-Ellis, *Making Sense of Artificial Intelligence: Why Algorithms cannot Think like Humans*, MIT Press, USA, 2018.
- [2] Solon Barocas, Moritz Hardt, and Arvind Narayanan, Fairness and Machine Learning: Limitations and Opportunities, 2023. [Online]. Available: <https://fairmlbook.org/pdf/fairmlbook.pdf>
- [3] Nick Bostrom, *Superintelligence: Paths, Dangers, Strategies*, Oxford University Press, 2014. [[Google Scholar](#)] [[Publisher Link](#)]
- [4] V.C. Cheng, *Artificial Intelligence: A Branch of History*, In H.K. Cheng & M. Ioannides (Eds.), *Cultural Heritage in a Changing World*, Springer, UK, pp. 163-176, 2019.
- [5] E.F. Churchill, "AI-Assisted Historical Research: How Digital Humanities can Benefit from Artificial Intelligence," *In Proceedings of the 2018 CHI Conference on Human Factors in Computing Systems*, ACM, 2018.
- [6] K. Crawford, *Atlas of AI: Power, Politics, and the Planetary Costs of Artificial Intelligence*, Yale University Press, 2021.
- [7] Thomas H. Davenport and Rajeev Ronanki, "Artificial Intelligence for the Real World," *Harvard Business Review*, pp. 108-116, 2018. [[Google Scholar](#)] [[Publisher Link](#)]
- [8] Finale Doshi-Velez, and Been Kim, "Towards a Rigorous Science of Interpretable Machine Learning," *arXiv*, vol. 1, pp. 1-13, 2017. [[CrossRef](#)] [[Google Scholar](#)] [[Publisher Link](#)]
- [9] Richard J. Evans, *The Pursuit of Power: Europe 1815-1914*, Penguin, UK, 2016. [[Google Scholar](#)]
- [10] L. Floridi, *Soft Ethics and the Governance of the Digital*, Philosophy & Technology, pp. 1-8, 2018. [[Google Scholar](#)]

- [11] Francis Fukuyama, *Identity: The Demand for Dignity and the Politics of Resentment*, Farrar, Straus and Giroux eBoook, 2018. [[Google Scholar](#)] [[Publisher Link](#)]
- [12] Urs Gasser, and Virgilio A.F. Almeida, "A Layered Model for AI Governance," *IEEE Internet Computing*, vol. 21, no. 6, pp. 58-62, 2017. [[CrossRef](#)] [[Google Scholar](#)] [[Publisher Link](#)]
- [13] C. Gershenson, *History and Philosophy of Artificial Intelligence*, F. van Harmelen, V. Lifschitz, & B. Porter (Eds.), Handbook of Knowledge Representation, Elsevier, UK, pp. 247-274, 2012.
- [14] Ian Goodfellow, Yoshua Bengio, and Aaron Courville, *Deep Learning*, MIT Press, 2016. [[Google Scholar](#)]
- [15] J. Gray, *The Soul of the Marionette: A Short Inquiry into Human Freedom*, Macmillan, 2015. [[Google Scholar](#)]
- [16] Yuval Noah Harari, *21 Lessons for the 21st Century: 'Truly mind-expanding... Ultra-topical'* Guardian, Random House, 2018. [[Google Scholar](#)]
- [17] Andreas Kaplan, and Michael Haenlein, "Siri, Siri, in My Hand: Who is the Fairest in the Land? On the Interpretations, Illustrations, and Implications of Artificial Intelligence," *Business Horizons*, vol. 62, no. 1, pp. 15-25, 2019. [[CrossRef](#)] [[Google Scholar](#)] [[Publisher Link](#)]
- [18] Rob Kitchin, *Thinking critically about and Researching Algorithms*, 1<sup>st</sup> ed., The Social Power of Algorithms. Routledge, pp. 14-29, 2018. [[Google Scholar](#)] [[Publisher Link](#)]
- [19] Thomas S. Kuhn, *The Structure of Scientific Revolutions*, 3<sup>rd</sup> ed., University of Chicago Press, Chicago and London, 1996. [[Google Scholar](#)] [[Publisher Link](#)]
- [20] Ray Kurzweil, "The Singularity is Near," *Ethics and Emerging Technologies*, pp. 393-406, 2005. [[CrossRef](#)] [[Google Scholar](#)] [[Publisher Link](#)]
- [21] Nisareh Mehrabi et al., "A Survey on Bias and Fairness in Machine Learning," *ACM Computing Surveys*, vol. 54, no. 6, pp. 1-35, 2021. [[CrossRef](#)] [[Google Scholar](#)] [[Publisher Link](#)]
- [22] Marvin Minsky, "The Emotion Machine: Commonsense Thinking, Artificial Intelligence, and the Future of the Human Mind," *Simon and Schuster*, 2007. [[Google Scholar](#)]
- [23] Evgeny Morozov, and Joanne J. Myers, "To Save Everything, Click Here: The Folly of Technological Solutionism," *Carnegie Council for Ethics in International Affairs*, pp. 1-16, 2013. [[Google Scholar](#)] [[Publisher Link](#)]
- [24] Evgeny Morozov, *The Net Delusion: The Dark Side of Internet Freedom*, Public Affairs, 2012. [[Google Scholar](#)]
- [25] Martha C. Nussbaum, *Not for Profit: Why Democracy Needs the Humanities*, Princeton: Princeton University Press, 2016. [[Google Scholar](#)] [[Publisher Link](#)]
- [26] Cathy O'Neil, *Weapons of Math Destruction: How Big Data Increases Inequality and Threatens Democracy*, Crown, 2017. [[Google Scholar](#)]
- [27] Steven Pinker, "Enlightenment Now: The Case for Reason, Science, Humanism, and Progress," *Revista Española de Investigaciones Sociológicas*, vol. 170, no. 170, pp. 163-167, 2020. [[Google Scholar](#)]
- [28] B. Rieder, *Critical Experiments: Toward an Algorithmic Hermeneutics*, University of Chicago Press, 2019.
- [29] Stuart J. Russell, and Peter Norvig, *Artificial Intelligence: A Modern Approach*, Pearson, 2016. [[Google Scholar](#)] [[Publisher Link](#)]
- [30] Ben Shneiderman, *Human-Centered AI*, Oxford University Press, 2022. [[Google Scholar](#)]
- [31] Richard E. Susskind, and Daniel Susskind, *The Future of the Professions: How Technology will Transform the Work of Human Experts*, Oxford University Press, 2015. [[Google Scholar](#)]
- [32] Max Tegmark, *Life 3.0: Being Human in the Age of Artificial Intelligence*, Vintage, 2018. [[Google Scholar](#)]
- [33] Sherry Turkle, *Alone together: Why We Expect more from Technology and Less from Each Other*, Basic Books, USA, 2011. [[Publisher Link](#)]
- [34] Shannon Vallor, *Technology and the Virtues: A Philosophical Guide to a Future Worth Wanting*, Oxford University Press, 2016. [[Google Scholar](#)]
- [35] Vernor Vinge, *The Coming Technological Singularity: How to Survive in the Post-Human Era*, Science Fiction Criticism: An Anthology of Essential Writings, vol. 81, pp. 352-363, 1993. [[Google Scholar](#)]
- [36] Max Weber, *Economy and Society: An Outline of Interpretive Sociology*, vol. 1, University of California Press, 1978. [[Google Scholar](#)]
- [37] Derrel M. West, *The Future of Work: Robots, AI, and Automation*, Brookings Institution Press, 2018. [[Google Scholar](#)]

- [38] S. Wineburg, *Historical Thinking and Other Unnatural Acts: Charting the Future of Teaching the Past*, Temple University Press, USA, 2001. [[Publisher Link](#)]
- [39] Roman V. Yampolskiy, *Artificial Superintelligence: A Futuristic Approach*, CRC Press, 2015. [[Google Scholar](#)]
- [40] Jonathan Zittrain, *The Future of the Internet and How to Stop It*, Penguin, UK, 2009. [[Google Scholar](#)]
- [41] Shoshana Zuboff, *The Age of Surveillance Capitalism: The Fight for a Human Future at the New Frontier of Power*, Public Affairs, USA, 2019. [[Publisher Link](#)]