

# Ethics in AI Decision Making: Mechanisms And Variables

Patil Rohini Ashok<sup>1</sup> and Dr. Aprana Sachin Pande<sup>2</sup>

Research Scholar, Department of Department of Computer Science<sup>1</sup>

Research Guide, Department of Department of Computer Science<sup>2</sup>

Sunrise University, Alwar, Rajasthan, India

**Abstract:** While artificial intelligence (AI) technology has the potential to benefit society and well-being, it also poses ethical dilemmas for decision-makers in areas such as skewed data, algorithmic discrimination, and unclear accountability. In this work, we use a qualitative research approach to identify ethical risk factors of AI decision making, apply rooting theory to construct a risk-factor model of ethical risks associated with AI decision making, and explore the ways in which risks interact through system dynamics, from which risk management strategies are proposed. Our study indicates that technological ambiguity, insufficient data, and administrative errors are the main sources of ethical hazards in AI decision making. Components of risk governance may be able to successfully restrict the social risks brought on by data, algorithm, and technical hazards. We provide strategies for handling ethical risks in AI decision-making from the perspectives of development, research, and management in light of this.

**Keywords:** Bias and Discrimination, Lack of Transparency, Privacy Concerns, Issues, Job Displacement, Misuse.

## REFERENCES

- [1]. Crompton, L. The decision-point-dilemma: Yet another problem of responsibility in human-AI interaction. *J. Responsible Technol.* 2021, 7–8, 100013.
- [2]. 2021, 7–8, 100013.
- [3]. Yu, C.I.; Hu, W.L.; Liu, Y. US Releases New “The National Artificial Intelligence Research and Development Strategic Plan”.
- [4]. *Secrecy Sci. Technol.* 2019, 9, 35–37.
- [5]. Wang, X.F. EU Releases “Artificial Intelligence White Paper: On Artificial Intelligence—A European approach to excellence and trust”. *Scitech China* 2020, 6, 98–101.
- [6]. Zhongguancun Institute of Internet Finance. Read More|The European Commission’s Proposal for a 2021 Artificial Intelligence Act; Zhongguancun Institute of Internet Finance: Beijing, China, 2021.
- [7]. Dayang.com—Guangzhou Daily. Korea to Develop World’s First Code of Ethics for Robots; Guangzhou Daily: Guangzhou, China, 2007.
- [8]. Sadie think tank. [Quick Comment], Foreign Countries Conduct Ethical and Moral Research on Artificial Intelligence at Multiple Levels. Available online: <https://xueqiu.com/4162984112/135453621> (accessed on 20 August 2022).
- [9]. State Council. Notice of the State Council on the Issuance of the Development Plan for a New Generation of Artificial Intelligence; State Council: Beijing, China, 20 July 2017.
- [10]. Jiang, J. The main purpose and principles of Artificial Intelligence ethics under the perspective of risk. *Inf. Commun. Technol. Policy* 2019, 6, 13–16.
- [11]. Susan, F. Ethics of AI: Benefits and risks of artificial intelligence systems. *Interesting Engineering*. Available online: [https:// baslangicnoktasi.org/en/ethics-of-ai-benefits-and-risks-of-artificial-intelligence-systems/](https://baslangicnoktasi.org/en/ethics-of-ai-benefits-and-risks-of-artificial-intelligence-systems/) (accessed on 20 August 2022).
- [12]. Turing, A.M. *Computing Machinery and Intelligence*. In *Parsing Turing Test*; Springer: Dordrecht, The Netherlands, 2007; pp. 23–65.

- [13]. Yan, K.R. Risk of Artificial Intelligence and its Avoidance Path. J. Shanghai Norm. Univ. Philos. Soc. Sci. Ed. 2018, 47, 40–47.
- [14]. Chen, X.P. The Target, Tasks, and Implementation of Artificial Intelligence Ethics: Six Issues and the Rationale behind Them. Philos. Res. 2020, 9, 79–87+107+129.
- [15]. Marabelli, M.; Newell, N.; Handunge, V. The lifecycle of algorithmic decision-making systems: Organizational choices and ethical challenges. J. Strateg. Inf. Syst. 2021, 30, 101683.
- [16]. Arkin, R.C. Governing Lethal Behavior: Embedding Ethics in a Hybrid Deliberative/Reactive Robot Architecture—Part 1: Motivation and Philosophy. In Proceedings of the 3rd ACM/IEEE International Conference on Human Robot Interaction, Amsterdam, The Netherlands, 12–15 March 2008; pp. 121–128.
- [17]. Zhao, Z.Y.; Xu, F.; Gao, F.; Li, F.; Hou, H.M.; Li, M.W. Understandings of the Ethical Risks of Artificial Intelligence. China Soft Sci. 2021, 6, 1–12.
- [18]. Leibniz, G.W. Notes on Analysis: Past Master; Oxford University: Oxford, UK, 1984.
- [19]. Anderson, S.L. Asimov’s “three laws of robotics” and machine metaethics. Sci. Fict. Philos. Time Travel Superintelligence 2016, 22, 290–307.
- [20]. Joachim, B.; Elisa, O. Towards a unified list of ethical principles for emerging technologies. An analysis of four European reports on molecular biotechnology and artificial intelligence. Sustain. Futures 2022, 4, 100086.
- [21]. Bernd, W.; Wirtz, J.C.; Weyerer, I.K. Governance of artificial intelligence: A risk and guideline-based integrative framework. Gov. Inf. Q. 2022, 101685.
- [22]. Bonnefon, J.F.; Shariff, A.; Rahwan, L. The social dilemma of autonomous vehicles. Science 2016, 352, 1573–1576.
- [23]. Johann, C.B.; Kaneko, S. Is Society Ready for AI Ethical Decision Making? Lessons from a Study on Autonomous Cars. J. Behav. Exp. Econ. 2022, 98, 101881.
- [24]. Cartolovni, A.; Tomicic, A.; Mosler, E.L. Ethical, legal, and social considerations of AI-based medical decision-support tools: A scoping review. Int. J. Med. Inf. 2022, 161, 104738.
- [25]. Chen, L.; Wang, B.C.; Huang, S.H.; Zhang, J.Y.; Guo, R.; Lu, J.Q. Artificial Intelligence Ethics Guidelines and Governance System: Current Status and Strategic Suggestions. Sci. Technol. Manag. Res. 2021, 41, 193–200.
- [26]. Weinmann, M.; Schneider, C.; vom Brocke, J. Digital Nudging. Bus. Inf. Syst. Eng. 2016, 58, 433–436.
- [27]. Jian, G. Artificial Intelligence in Healthcare and Medicine: Promises, Ethical Challenges and Governance. Chin. Med. Sci. J. 2019, 34, 76–83.
- [28]. Stahl, B.C. Responsible innovation ecosystems: Ethical implications of the application of the ecosystem concept to artificial intelligence. Int. J. Inf. Manag. 2022, 62, 102441.
- [29]. Galaz, V.; Centeno, M.A. Artificial intelligence, systemic risks, and sustainability. Technol. Soc. 2021, 67, 101741.
- [30]. Catherine, M.; Gretchen, B.R. Designing Qualitative Research: Guidance throughout an Effective Research Program; Chongqing University Publisher: Chongqing, China, 2019.
- [31]. Juliet, M.C.; Anselm, L.S. Procedures and Methods for the Formation of a Rooted Theory Based on Qualitative Research; Chongqing University Publisher: Chongqing, China, 2015.
- [32]. Flynn, S.V.; Koruska, J.S. Grounded theory research design: An investigation into practices and procedures. Couns. Outcome Res. Eval. 2018, 9, 102–116.
- [33]. Li, X.; Su, D.Y. On the Ethical Risk Representation of Artificial Intelligence. J. Chang. Univ. Sci. Technol. Soc. Sci. 2020, 35, 13–17.
- [34]. Tan, J.S.; Yang, J.W. The Ethical Risk of Artificial Intelligence and Its Cooperative Governance. Chin. Public Adm. 2019, 10, 46–47.
- [35]. Zhang, Z.X.; Zhang, J.Y.; Tan, T.N. Analysis and countermeasures of ethical problems in artificial intelligence. Bull. Chin. Acad. Sci. 2021, 36, 1270–1277.

- [38]. Zhang, T.; Ma, H. System Dynamics Research on the Influencing Factors of Data Security in Artificial Intelligence. *Inf. Res.* 2021, 3, 1–10.
- [39]. Zhu, B.Z.; Tang, J.J.; Jiang, M.X.; Wang, P. Simulation and regulation of carbon market risk based on system dynamics. *Syst. Eng. Theory Pract.* 2022, 42, 1859–1872.
- [40]. Lo Piano, S. Ethical principles in machine learning and artificial intelligence: A case from the field and possible ways forward.
- [41]. *Humanit. Soc. Sci. Commun.* 2020, 7, 9.