



ARTIFICIAL INTELLIGENCE, ETHICS, AND PUBLIC TRUST: AN INTERDISCIPLINARY STUDY OF EMERGING TECHNOLOGIES

Dr. Aaron T. Lim

School of Computing and Social Systems
National University of Singapore Singapore

Abstract

Artificial Intelligence (AI) has rapidly transformed decision-making processes across sectors such as healthcare, finance, governance, and public services. While AI-driven systems promise efficiency and innovation, their growing influence has raised ethical concerns related to transparency, accountability, bias, and data privacy. Public trust has emerged as a critical factor in determining the acceptance and effectiveness of AI technologies. This study adopts an interdisciplinary framework integrating perspectives from computer science, ethics, policy studies, and social sciences to examine the relationship between ethical AI practices and public trust. Using survey data and policy analysis, the study explores public perceptions of AI systems and identifies key ethical determinants influencing trust. The findings suggest that transparency, explainability, and regulatory oversight significantly enhance public confidence in AI technologies. The paper concludes with recommendations for ethical governance frameworks to support responsible AI deployment.

Keywords: Artificial intelligence, ethics, public trust, technology policy, interdisciplinary research, responsible AI.

1. Introduction

Artificial Intelligence has moved from experimental laboratories into everyday life, shaping how decisions are made in areas such as medical diagnosis, credit scoring, recruitment, policing, and governance. Governments and organizations increasingly rely on AI systems to improve efficiency and predictive accuracy. However, the expansion of AI has been accompanied by public concern over



ethical risks, including algorithmic bias, surveillance, lack of accountability, and misuse of personal data.

Trust plays a central role in the societal acceptance of emerging technologies. Without public trust, even technically advanced AI systems may face resistance, regulatory backlash, or ethical criticism. Understanding trust in AI therefore requires an interdisciplinary approach that goes beyond technical performance and examines ethical principles, governance structures, and social perceptions. This paper aims to analyze how ethical considerations influence public trust in AI technologies. By integrating insights from computer science, ethics, and public policy, the study seeks to contribute to the development of responsible and socially acceptable AI systems.

2. Literature Review

2.1 Artificial Intelligence and Society

AI systems increasingly mediate social and institutional interactions. **Russell and Norvig (2021)** describe AI as a transformative general-purpose technology with profound societal implications. **Brynjolfsson and McAfee (2017)** highlight AI's potential to reshape labor markets and economic structures.

However, concerns regarding algorithmic decision-making have been raised. **O'Neil (2016)** demonstrates how opaque algorithms can reinforce social inequalities, while **Eubanks (2018)** documents the risks of automated decision systems in public services.

2.2 Ethics of Artificial Intelligence

Ethical AI research focuses on principles such as fairness, transparency, accountability, and privacy. **Floridi et al. (2018)** propose an ethical framework emphasizing human-centered AI design. **Mittelstadt et al. (2016)** argue that ethical challenges arise from the opacity and complexity of machine learning systems.

Bias in AI systems has received particular attention. **Buolamwini and Gebru (2018)** show how facial recognition technologies exhibit racial and gender biases, raising ethical and human rights concerns.



2.3 Public Trust and Governance

Public trust is influenced by perceptions of competence, integrity, and accountability. Gillespie (2014) argues that trust in algorithms depends on institutional transparency and oversight. Jobin, Ienca, and Vayena (2019) analyze global AI ethics guidelines and note a convergence around transparency and accountability.

Policy-oriented studies, such as OECD (2019) and European Commission (2020), emphasize regulatory frameworks as key mechanisms for building public trust in AI systems.

3. Methodology

3.1 Research Design

The study employed a quantitative survey design complemented by a review of national and international AI governance frameworks.

3.2 Sample

The survey included 210 respondents aged 20–45 from urban regions in Singapore. Participants represented diverse educational and professional backgrounds.

3.3 Data Collection Instrument

The questionnaire measured:

- Awareness of AI applications
- Perceived ethical risks (bias, privacy, accountability)
- Level of trust in AI systems
- Attitudes toward government regulation of AI

Responses were recorded using a five-point Likert scale.

3.4 Data Analysis

Descriptive statistics were used to analyze public perceptions, and correlation analysis examined relationships between ethical concerns and trust levels.



4. Results and Discussion

4.1 Survey Results

The findings indicate that ethical considerations strongly influence public trust in AI technologies.

Table 1: Public Perceptions of AI Ethics and Trust (n = 210)

Indicator	Agreement (%)
AI improves efficiency in services	74
Concerned about data privacy	69
Worried about algorithmic bias	63
Trust AI systems with clear explanations	78
Support government regulation of AI	81

4.2 Discussion

The majority of respondents expressed conditional trust in AI systems, dependent on transparency and regulatory oversight. Ethical risks such as data misuse and bias were significant predictors of lower trust.

These findings align with **Floridi et al. (2018)** and **Jobin et al. (2019)**, emphasizing that ethical governance frameworks are essential for public trust. From an interdisciplinary perspective, trust emerges at the intersection of technical design, ethical norms, and institutional regulation.

5. Conclusion

This study highlights the importance of ethics and governance in shaping public trust in artificial intelligence. Technical performance alone is insufficient to ensure societal acceptance of AI systems. Transparency, accountability, and regulatory oversight are critical factors influencing public confidence.

Policymakers should adopt interdisciplinary governance models that integrate ethical principles into AI development and deployment. Future research should explore cross-cultural perceptions of AI trust and longitudinal impacts of regulatory interventions.



References

1. Brynjolfsson, E., & McAfee, A. (2017). *Machine, platform, crowd*. Norton.
2. Buolamwini, J., & Gebru, T. (2018). Gender shades. *Proceedings of the Conference on Fairness, Accountability and Transparency*, 77–91.
3. Eubanks, V. (2018). *Automating inequality*. St. Martin's Press.
4. European Commission. (2020). *Ethics guidelines for trustworthy AI*.
5. Floridi, L., et al. (2018). AI4People—An ethical framework for a good AI society. *Minds and Machines*, 28(4), 689–707.
6. Gillespie, T. (2014). The relevance of algorithms. *Media Technologies*, 167–194.
7. Jobin, A., Ienca, M., & Vayena, E. (2019). The global landscape of AI ethics guidelines. *Nature Machine Intelligence*, 1(9), 389–399.
8. Mittelstadt, B. D., et al. (2016). The ethics of algorithms. *Big Data & Society*, 3(2), 1–21.
9. OECD. (2019). *Principles on artificial intelligence*.
10. Russell, S., & Norvig, P. (2021). *Artificial intelligence: A modern approach* (4th ed.). Pearson.