

Chapter 14

Deciphering Ethics and Privacy in Artificial Intelligence Through Bibliometric

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ABSTRACT

This study offers a bibliometric review of AI ethics and privacy research, with a focus on trends, topics, and deficiencies. Employing citation, co-citation, and keyword analysis, it reveals significant topics like algorithmic bias, transparency, and data privacy. These issues received moderate concern from 71 participants, and the results showed the correlations between transparency, data protection, and ethical guidelines are significant. Thus, ANOVA results reveal the significance of these predictors for privacy perceptions. The study also points out that the field of AI ethics research is dynamic and identifies potential trajectories for research.

1. INTRODUCTION

AI is one of the most innovative and significant fields that impacts numerous industries such as healthcare, finance, and transportation industries. They are used from automated decision making to predictive analysis, and even in individualized services. However, the advancement in AI attracts several ethical and privacy is-

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sues. Some of these are Algorithm bias, decision transparency and the question of personal data (Murdoch, 2021).

Citation analysis of scientific publications has become the focus of bibliometrics, a useful approach for exploring AI research. They assist in discovering trends, relationships, and potential future trends (Ocaña-Fernández & Fuster-Guillén, 2021). Although bibliometrics has been used to investigate the technological effects of AI, it is equally used to understand the ethical and privacy aspects of AI.

The bibliometric analysis of the AI ethics can help in understanding the emerging issues discussed in different fields of study and possible tensions between the AI systems and the ethical questions. There are several ethical issues that come with the adoption of artificial intelligence in day-to-day life (Du & Xie, 2021).

Ethical issues include issues of bias in decision making process, opacity, and responsibility of AI systems. Privacy concerns include the gathering, retention and utilization of personal information with or without permission.

Aim: The purpose of this paper is to use bibliometric data for the identification of research trends, directions, and shortcomings in the field of AI ethics and privacy.

2. BACKGROUND

2.1 Evolution of Research on AI Ethics and Privacy

The study in the field of AI ethics and privacy has evolved over the years from a mere technology to the inclusion of ethical technology and privacy. In the initial years of the subject, research primarily focused on technology innovations without much consideration of their moral implications (Nasim, Ali, & Kulsoom, 2022). While AI technologies were increasingly integrated into different fields, the conversation shifted towards crucial ethical questions.

Zhang et al. (2021) identified that over the past few years, there has been a significant focus on AI ethics, co-occurrence analysis showed that the top universities and core journals are focusing on these topics. In their study, using a topical hierarchical tree, the authors present 15 AI techniques matched with 17 significant ethical questions, pointing to a systematic approach to ethical issues.

Siau and Wang (2020), opine that the ethics of AI have become topical especially given that the use of AI in facial recognition, diagnosis, and autonomous cars raises serious ethical and privacy concerns. They point out that the idea of ‘machine ethics was first presented in 2006 and that AI ethics is still in its embryonic stage and therefore calls for a more serious approach to ethical AI. The authors emphasize the need to establish ethical principles, rules, guidelines, and policies to address the risks of AI. As stated by the authors, ethical AI should be ethical, but it also

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