

222

by Arkan Kabla

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Exploring the ethical implications of AI technology, including issues related to bias, fairness, transparency, and accountability.

Study title	Publication year	Author	Methodology	Key findings	Weaknesses and limitations
¹ Fairness, Accountability, Transparency, and Ethics (FATE) in Artificial Intelligence (AI) and higher education: A systematic review	2023	Bahar Memarian , Tenzin Doleck	¹ A total of 33 publications from SCOPUS and Web of Science (WoS) were included in this systematic literature review.	¹ Findings show more descriptive definitions exist (especially for fairness) and similarly quantitative definitions mostly emerge for Fairness.	⁷ We only considered studies that had contextualized FATE on AI and higher education contexts and as such omitted including studies that may have explored FATE or AI and higher education in isolation
³ Using convolutional neural networks to detect learner's personality based on the Five Factor Model	2023	N. El Bahri a , Z. Itahriouan b , A. Abtoy a , S. Brahim Belhaouari	¹ The base step where the face' characteristics are detected and cropped from each video frame using a facial landmark detection algorithm. The second step aims to detect in real time face Action Units (AUs) traits which. The third step is used to decide based on detected AUs combinations personalities according to FFM.	¹ Detected personalities are designed to be stored in a database as a dataset to be exploited and studied in multiple contexts particularly in the analysis of student personality in learning platforms.	³ Our solution is only applicable in teaching and learning environments that use the front camera. Yet, there are some environments that do not allow or require the usage of the front camera
¹⁰ AI Fairness in Data Management and Analytics: A Review on Challenges, Methodologies and Applications	2023	Pu Chen 1 , Linna Wu 2 and Lei Wang	² Our comprehensive search strategy includes systematic searches of respected academic databases, including IEEE Xplore, ScienceDirect, ACM Digital Library, Springer, Wiley Library, etc	The information reviewed in this paper is drawn from reputable sources, including leading academic journals, prominent conference proceedings.	² These limitations stem primarily from nuances in research methodology, sample size, and context, which may affect the generalizability of the conclusions drawn from individual studies.

9 Ethical Artificial Intelligence (AI): Confronting Bias and Discrimination in the Library and Information Industry	2023	Hamid Reza Saeidnia	6 This Viewpoint article presents a critical analysis of the ethical implications of bias and discrimination in the library and information industry with respect to Artificial Intelligence (AI).	6 The findings of this study reveal that bias and discrimination are significant concerns in AI systems used in the library and information industry.	9 Users should be empowered to critically evaluate AI-generated recommendations and search results, and to provide feedback on their experiences.
5 Ethics of AI Technologies and Organizational Roles: Who Is Accountable for the Ethical Conduct?	2019	Vaiste Juho	5 en informants from the IT/AI vendors was interviewed for the research. The informants possess significant expertise on AI/ML, data science or information technology in general. All the informants work in the Finnish IT companies which have demonstrated an active progress and participation to the development and implementations of the AI/ML technologies	8 Role-specific, systematic and agency-based approaches offer different views on organizational roles and practices to this ethical challenge. Arguing from the role-specific approach, the emerging roles of AI ethics could build-up to the boundaries between programmers, designers, and compliance personnel	2 While our current coverage might have limitations due to the rapid pace of change and ongoing research, please know that we are committed to further studying and exploring this crucial subject.
11 Navigating the Ethical Challenges of Artificial Intelligence in Higher Education: An Analysis of Seven Global AI Ethics Policies	2023	Zouhaier Slimi P 1,2P, Beatriz Villarejo Carballido	4 The current study applied discourse analysis to analyse seven central AI ethics policies based on three main themes. AI bias, decision making, and human labour displacement. The data were	1 The findings indicate that stakeholders must work together to address these challenges and ensure responsible AI deployment in higher	4 Their focus on LIS and librarianship may limit the generalisability of their findings to other disciplines and fields. Furthermore, their examination of the ethical implications of AI in higher

			4 thematically coded according to these three objectives and analysed using the Fairclough dimensions based on the texts studied	1 education while maximizing its benefits. Fair use and protecting individuals, especially those with vulnerable characteristics, are crucial.	4 education is mainly theoretical and could benefit from more empirical research
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According to (Memarian, 2023) , AI is becoming more popular in academic settings. ¹With this increase, the morality of AI systems ⁷is being questioned. Therefore, it is important to examine how the concepts of FATE (Fairness, Accountability, Transparency, and Ethics) are defined in the existing research on artificial intelligence (AI) and higher education. ⁷It turns out that there are more definitions that use descriptive language (particularly for fairness) and that quantitative definitions of fairness predominate. The results also suggest that although quantitative research is more common when examining concepts like fairness, qualitative definitions are more common when discussing ethics. However, in most cases, the number of definitions outnumbers the number of relevant research.

³With the advent of AI, machine tutors are now linked with students to teach them subjects like physics, languages, and more. Teachers can now accommodate a larger number of students in more comfortable settings ³because of advancements in natural language processing and machine learning. Face analysis systems may enhance the education process by knowing the inner state of learners' brains and helping them overcome the potentially stressful circumstances of their study. Facial recognition is a common computer vision technique that might be used to determine a student's character (Elbahi, 2023).

All of the materials cited in this study are reliable resources with proven track records in the field of AI fairness. These include top academic publications, prestigious conference proceedings, and long-standing internet archives. However, it must be kept in mind that the results may be limited in their generalizability due to subtleties in the study, small sample numbers, and contextual ²considerations. As machine learning-based innovations have emerged, recognizing patterns from data and performing pattern recognition, inference, or prediction, rule-based ²systems have progressively given way to machine learning for decision making. As humans are still engaged in gathering the datasets necessary to train machine learning in the new system , prejudice and injustice are slowly but surely infecting artificial intelligence in another form (Chen, 2023).

⁶This Viewpoint study gives a critical review of the ethical consequences of prejudice and discrimination in the library and information sector with relation to Artificial Intelligence (AI). Methods for combating prejudice and bias in AI are proposed, and existing practices in the field are examined. By highlighting issues of prejudice and discrimination, this essay aims to increase understanding of the ethical challenges posed by AI in the library and

information sector. Its goal is to bring attention to the need of taking preventative actions to address these problems and guarantee the fair and ethical development of AI technology. (Saeidnia, 2023)

¹³ It's widely acknowledged that AI has the potential to revolutionize a variety of sectors in today's economy and culture. Ethical issues pertaining to AI should be the subject of cross-disciplinary study alongside its beneficial effects. Questions of AI ethics are emerging as a new area of research in management. Organizations must adapt to changing moral standards by establishing new policies, procedures, and job descriptions. Recent years have seen an increased emphasis on principle-level work in the AI ethics community, resulting in extensive documentation. Converting these insights into organizational practices is a critical issue for management studies. Management scholars have the obligation of determining who is accountable for answering moral questions. There are a variety of perspectives on how organizations should respond to this ethical dilemma, including role-specific, systematic, and agency-based methods. The increasing roles of AI ethics may strengthen the divisions between developers, designers, and regulators, according to the role-specific approach (Juho, 2017).

There are ethical issues that arise from the employment of AI at universities, as stated by. If utilized in the admissions or grading procedures, biased algorithms constitute a serious concern that might have severe repercussions on students. There are also worries about transparency and accountability as AI gets increasingly incorporated into decision-making processes, and the replacement of human educators by AI systems is another problem. This research looked at three AI goals in higher education: discriminatory algorithms, autonomous decision-making, and the replacement of humans. The results show that stakeholders need to collaborate to solve these problems and guarantee the ethical use of AI in higher education. Protecting people, especially those who are most vulnerable, and ensuring their fair usage are of paramount importance. Avoiding gender bias is essential when creating algorithms, training data, and making decisions using artificial intelligence. (Slimi, 2023)

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