

INVESTIGATE THE SOCIAL AND ETHICAL IMPLICATIONS OF ARTIFICIAL INTELLIGENCE (AI) IN VARIOUS DOMAINS

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Abstract

Artificial intelligence might change everything from medicine and finance to transportation and education. However, assurances have important social and moral implications that must be considered. Artificial intelligence's social and moral effects across spaces are examined in this article. AI-controlled symptomatic devices in medical treatment create concerns regarding persistent protection, information security, and dynamic computations. In finance, AI-driven robotized trading poses market control, fundamental precariousness, and uneven access to financial services. Independent cars present moral questions about duty, security, and transportation labor. Simulated intelligence-based tailored learning stages raise questions regarding value, protection, and the role of human instructors in student development. As man-made intelligence is used in monitoring, police, and administration, concerns arise regarding shared liberties, segregation, algorithmic predilection, and force abuse. These social and moral implications require interdisciplinary collaboration, administrative structures, and moral rules to ensure that computer-based intelligence advances are created and sent responsibly to advance human prosperity and cultural government assistance.

Keywords: *Ethical Implications, social implications, artificial intelligence, domains.*

1. INTRODUCTION

Artificial intelligence (AI) has been a more often discussed issue in recent years. This is due to the significant impact AI has had on a wide range of aspects of our everyday life. A subfield of computer science known as "artificial intelligence" (AI) is dedicated to creating computer systems that are capable of doing activities that have historically needed human intellect. Speech recognition, decision-making, and language translation are a few instances of these activities [1]. Artificial intelligence (AI) has benefitted a wide range of businesses, including the financial, medical, and transportation sectors. Artificial intelligence, for instance, has been used to the medical industry to diagnose illnesses, analyse images, and find new drugs. Artificial intelligence has been applied in finance to identify fraudulent activity and develop trading algorithms. Artificial intelligence has revolutionized the transportation sector by enabling the development of driverless automobiles, improved traffic management systems, and more effective freight transportation methods.

However, there are ethical concerns around prejudice, accountability, and privacy when using AI. For example, using artificial intelligence (AI) algorithms to decision-making creates issues with accountability and transparency, while using AI to handle personal data raises worries

about data security and privacy [2]. Fairness and justice in the workplace have been called into question by the possibility that AI systems might exacerbate and perpetuate cultural prejudices.

2. LITERATURE REVIEW

M. Ashok, R. Madan, A. Joha, and U. Sivarajah (2022) [3]. This study adds to the critical discussion on DT AI ethics beyond high-level AI concepts. This research uses a unique ontological framework (physical, cognitive, information, and governance) to identify 14 digital ethical concerns for AI deployment in seven DT archetypes. The study offers major review results and a conceptual model with twelve propositions showing how DT archetypes and organisational influence mitigate the impact of digital ethics on societal impact. In our sample, intelligibility, responsibility, justice, autonomy, and privacy are the most mentioned cognitive and information domain consequences. Governance-related ethical considerations apply to most DT archetypes. Except for safety, AI dissemination has little physical domain implications. The primary results and conceptual model have academic and professional consequences.

Vesnic-Alujevic, Nascimento, & Polvora (2020) [4]. This study critically examines AI/ML's effects on society and the European AI policy framework. We provide an overview of key ethical and societal issues at the intersection of European policy agendas and recent literature by analyzing policy produced by European institutions, national governments, and other organizations between research and policy-making. Our analysis shows that 21 publications consider human and social implications and ask for increased responsibility, accountability, openness, safety, and trust. Our findings also suggest the need for more integrated approaches between governments, industry, and academia stakeholders, and most importantly, applied multidisciplinary frameworks supported by anticipatory outlooks and public engagement exercises to address the debate's often excessive technicality.

M. Ryan (2023) [5]. This study will evaluate the social and ethical effects of agricultural AI. It will highlight the most common difficulties and effects in the literature, how they relate to AI ethics, and how they are being adopted into AI ethics standards. A thematic study of papers and conference proceedings on AI's social and ethical effects in the agri-food industry will do this. Thematic analysis will be divided by 11 overarching principles from a lexicon: transparency, justice and fairness, non-maleficence, responsibility, privacy, beneficence, freedom and autonomy, trust, dignity, sustainability, and solidarity. AI agricultural research is very young, but this study maps the discussion and shows social and ethical effects. Based on these 11 principles, it analyzes these effects.

R. Belk (2021) [6]. As we depend more on robotic and AI technology, service providers and users must examine ethical issues. The problems covered in this review include omnipresent monitoring, social engineering, military robots, sex robots, and transhumanism. Besides transhumanism, all of these AI and robotic service interface domains have ethical difficulties in practice. As these technologies advance, these five categories will generate more issues. These concerns have major ramifications and must be researched and addressed quickly. I include significant publications for this inquiry. It fills a gap in contemporary service AI and

robotics research. It widens ideas of robots and AI service settings, affecting public policy and service technology applications.

In 2020, Munoko, Brown-Liburd, and Vasarhelyi published [7]. Accounting companies are using AI in their auditing and advising activities to save time, speed up data processing, improve accuracy, get greater insight into corporate operations, and improve client service. AI, a new technology that mimics human cognition and judgment, offers competitive benefits to adopters. Thus, all Big 4 firms are reporting its usage and intentions to continue utilizing this innovation in audit planning risk assessments, transaction testing, analytics, and audit work-paper preparation. As the auditing profession learns about AI's applications and advantages, unforeseen repercussions are becoming apparent. Thus, we follow many scholars' calls to study AI's advantages and ethical consequences. We predict the ethical consequences of AI in auditing based on its fundamental characteristics, nature, and planned roles by integrating two future ethical frameworks.

Stahl, B. C., Andreou, A., Brey, P., Hatzakis, T., Kirichenko, A., Macnish, K., & Wright, D. (2021) [8]. AI has technological and economic advantages but also legal, societal, and ethical challenges. Benefits and drawbacks are hard to conceptualize and assess. Thus, we provide the results and implications of a multi-dimensional AI research that included 10 case studies, five scenarios, an ethical effect analysis, a human rights analysis, and a technological examination of known and hypothetical dangers and weaknesses. Our results divide AI ethical debate into three streams: (1) machine learning-related challenges, (2) social and political questions in a digitally empowered society, and (3) philosophical questions regarding reality and humanity. Human rights laws and ideals are crucial to AI ethics. This effort guides AI to benefit humans.

3. POSSIBLE GOOD AND BAD EFFECTS OF AI ON SOCIETY

Artificial intelligence may transform many businesses and society. This will provide benefits and hazards that must be controlled.

Artificial intelligence frees up workers' time so they may concentrate on more hard and innovative activities. This boosts production and efficiency across many industries. AI-powered robots can do data entry, inventory management, and assembly line labor, reducing errors and increasing productivity. These bots can do many more things. AI may simplify medical diagnosis and therapy, improving healthcare. Medical photos may be analyzed by AI to detect health issues [9]. AI can identify health issues in medical photos, helping clinicians diagnose them. AI can help physicians diagnose and treat patients, improving healthcare. Artificial intelligence can examine medical data and forecast health issues. Both forms of AI can analyze medical data and forecast health issues. and virtual assistants may provide tailored advice and assistance, improving client satisfaction.

However, artificial intelligence poses serious hazards that must be addressed. These dangers must be considered. One of the biggest issues with AI is job loss[10]. AI automates procedures, which may reduce employment and widen the wealth divide. Even said, AI might create new jobs in domains like data analysis and computer programming, where AI skills are scarce..

3.1.Ethical Benefits Of AI

AI ethical dilemmas are often assumed to be ethically wrong. As expected, much of the AI discussion centers on ethically troubling consequences. However, AI has several advantages. As said, many AI policy texts emphasize the economic advantages of AI from increased efficiency and production. These are ethical ideals because they promise more prosperity and wellbeing, which will improve people's lives and promote or need human flourishing. This involves particular wealth distribution levels and assumptions about society and the state's role in ethical wealth redistribution, which should be made public. According to the EU's High-Level Expert Group on AI (2019: 4), AI has various technological capabilities that may have immediate ethical advantages[11]. The International Risk Governance Centre (2018) describes AI's capacity to examine data that humans cannot handle. AI can connect data, detect patterns, and provide results across disciplines and regions. More constant than humans, AI can swiftly adapt to changing inputs and liberate people from monotonous work.

These technical talents improve comprehension and insight into numerous phenomena, which promotes human happiness. AI may help busy professionals by cutting commute times and improving email spam filters.

There are growing efforts to use AI for ethical goals, in addition to these accidental ethical advantages[12]. This is done under "AI for Good". AI for Good struggles to define morally good. There may be little consensus on what is good or why in a diverse environment. Many efforts have been made to establish ethical principles like compassion, security, accomplishment, and self-direction.

3.2.Ethical Principles And Frameworks

➤ **Fairness**

AI systems must treat everyone fairly as a fundamental ethical precept. Fairness is complicated by data collecting, algorithmic bias, and fairness indicators. Algorithmic fairness tries to correct deep-seated biases in many AI systems, requiring thorough analysis.

➤ **Transparency and Explainability**

Transparency and explainability are essential in AI ethics. Since opaque AI systems lack accountability and trust, deep learning models must be scrutinized. Thus, model openness and explainability are morally necessary and necessary for public adoption of AI technology.

➤ **Accountability**

AI responsibility goes beyond legal culpability to include moral commitment to fix AI wrongs. Due to machine learning models' dispersed decision-making, defining AI responsibility is difficult. Consequentialism and deontology illuminate AI responsibility.

➤ Privacy and Data

Protection AI raises serious ethical issues for privacy, a human right. AI data collection, storage, and use present complex permission, anonymization, and data protection issues. The General Data Protection Regulation (GDPR) supports AI privacy protection.

4. ETHICAL CHALLENGES IN AI AND MACHINE LEARNING

4.1. Bias and Discrimination

AI prejudice is a major ethical issue. Historical data may encode social preconceptions into algorithms, resulting in discrimination[13]. These challenges affect employment, lending, and criminal justice systems, requiring ethical considerations to address structural imbalances.

4.2. Job Displacement and Economic Impact

AI has ethical concerns for economics, specifically job displacement. AI-powered automation threatens some jobs, prompting issues about social accountability for displaced people. Universal basic income (UBI) and strong retraining initiatives may alleviate these effects ethically.

4.3. Autonomous Decision-Making

Growing AI use in autonomous decision-making, such as medical diagnosis and autonomous cars, raises complex ethical issues. The 'trolley issue' in autonomous cars and AI's ethical dilemmas in healthcare highlight the need to set ethical bounds for AI's autonomous decision-making. These issues center on AI's values aligning with human ideals.

4.4. Future Trends And Challenges

Advancements in AI

Anticipating AI developments is crucial for predicting the future ethical environment. As AI progresses, ethics must change. AGI and quantum computing have transformational potential but need ethical attention. AGI poses fundamental problems regarding value alignment and control.

Ethical AI in Specific Domains Intriguingly

Specific fields with deep AI applications need specialized AI ethics. Education, healthcare, and climate science provide distinct ethical issues and possibilities. AI ethics in education include customized learning and academic honesty. AI ethics in diagnosis, therapy, and patient care are crucial in healthcare. Climate science addresses AI's involvement in environmental crisis mitigation and ethical data collecting and analysis.

The Role of AI Ethics in Policy

AI ethics and policy are changing. National and international public policy is increasingly shaped by AI ethics. With AI's worldwide reach, global governance's role in creating and enforcing ethical norms grows. To promote innovation and protect society, policymakers must tread a delicate line.

5. CONCLUSION

The analysis of the ethical and social consequences of computerized thinking (simulated intelligence) in several domains reveals the complexity and interdependence of the challenges posed by advances in simulated intelligence. Artificial intelligence brings both opportunities and risks that need careful consideration in the fields of education, finance, healthcare, and transportation [14]. Although computer-generated intelligence has the potential to enhance efficiency, precision, and advancement, it also gives rise to concerns about security, preference, accountability, and worth. In order to address these implications, legislators, technologists, ethicists, and partners must work together to promote ethical guidelines, best practices, and administrative frameworks that support the development and organization of thoughtful man-made intelligence. Furthermore, it is essential to improve research, communication, and collaboration with other perspectives to ensure that advancements in simulated intelligence respect fundamental human rights, align with cultural norms, and contribute to the well-being of individuals and communities globally [15]. We can address artificial intelligence's remarkable potential while reducing its anticipated risks and maximizing its benefits for humanity by proactively and thoroughly attending to its social and moral implications.

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