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07

ETHICAL ISSUES IN ARTIFICIAL INTELLIGENCE

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Abstract

Artificial Intelligence (AI) is no longer just a futuristic concept—it has already become part of our daily lives. From personalised recommendations on streaming platforms to tools used in hospitals or banks, AI systems are changing how we work, learn, and even make decisions. While its capabilities to simulate human thinking—like learning from data or recognising patterns—are impressive, they also raise complex questions. As this technology develops at an extraordinary pace, we are beginning to face serious ethical and social dilemmas. How is our personal data being used? Can AI systems be truly fair, or are they reinforcing hidden biases? Moreover, what happens to traditional jobs when machines begin to outperform humans in certain tasks?

This paper examines the positive and negative effects of AI on society. It explores how we can benefit from these innovations while also addressing the risks they pose. Most importantly, it argues for the urgent need to create strong ethical and legal guidelines—developed through global cooperation—so that the use of AI remains fair, transparent, and in line with human values. However, due to the complexity of AI systems, few people fully grasp how they function.

Legal practitioners need to understand the basics of AI systems to address the legal challenges that can arise from their use. This paper will guide us through the fundamental concepts of AI from a non-technical perspective, helping you understand how such systems are created and their practical applications in our daily lives. Developments related to AI are widely mediatised. They promise to deliver "better than human" performance across a wide range of tasks, along with new tools to simplify our lives. However, what lies behind such systems, how do they work, and how are we protected from any harm that can be caused by them or the decisions that they influence?

Keywords: Algorithmic Discrimination, Artificial Intelligence, Ethical Issues, Data Privacy, Legal Challenges.

I. INTRODUCTION

AI is the field dedicated to understanding and constructing "intelligent" systems. However, the scope of systems classified as AI is broad, leading to ongoing debate over their true nature. Companies may claim to use AI to attract investment, researchers may employ it to secure funding, and the government may resort to it for behaviour monitoring purposes.

Given that AI draws on fields such as statistics and computer science, there is often ambiguity about its definition. Nonetheless, (real) AI-based systems have become prevalent in our daily lives. While their presence may not always be apparent, they play crucial roles in decision-making, information filtering, system control, and even creative tasks.

AI systems are technologies capable of processing data and information in ways that mimic intelligent behaviour. These systems typically involve components such as reasoning, learning, perception, prediction, planning, or control (Russell & Norvig, 2021). This understanding centres around three key aspects:

- AI systems are data-driven technologies that use models and algorithms to learn and perform cognitive functions. This enables them to make predictions or decisions in both physical and digital settings (European Commission, 2021; Goodfellow et al., 2016). They are built to operate at different levels of autonomy, utilising techniques such as knowledge modelling, representation, data analysis, and correlation detection (Floridi & Cowls, 2019).
- AI systems can rely on various methods, including (but not limited to) machine learning approaches such as deep learning and reinforcement learning (Goodfellow et al., 2016; Sutton & Barto, 2018).
- Machine reasoning, including planning, scheduling, knowledge representation and reasoning, search, and optimisation (Russell & Norvig, 2021; Brachman & Levesque, 2004).

AI technologies are increasingly integrated into cyber-physical systems, such as the Internet of Things (IoT), robotics, social robots, and human-computer interaction tools. These applications combine control mechanisms, perception capabilities, sensor data processing, and actuator control to enable AI systems to interact with and respond to their physical environments (Domingos, 2015; Boden, 2016).

- Ethical considerations related to AI extend across the entire lifecycle of an AI system. This includes every phase—from initial research, design, and development to deployment, daily

use, and eventual decommissioning. It also encompasses tasks such as maintenance, financing, trading, monitoring, evaluation, validation, and dismantling or termination of the system. The term "AI actors" refers to any individuals or organisations involved in any phase of this lifecycle. These can include natural persons (e.g., researchers, developers, end-users) as well as legal entities such as companies, academic institutions, and public or private organisations (Jobin, Ienca, & Vayena, 2019; IEEE, 2019).

- AI systems raise new ethical issues, including: However, they are not limited to, their impact on decision-making, employment and labour, social interaction, healthcare, education, media, access to information, digital divide, personal data and consumer protection, environment, democracy, rule of law, security and policing, dual-use applications, and human rights and fundamental freedoms, such as freedom of expression, privacy, and non-discrimination (Floridi et al., 2018). Some of the challenges associated with AI stem from its ability to take on tasks once thought exclusive to living beings, sometimes even uniquely human. This capability positions AI systems in a transformative role within human activities and society at large. As a result, they are reshaping how people interact with their surroundings and the environment. This shift also creates a new reality in which children and young people are growing up—a world in which they form their understanding of themselves and society, engage with media and information more critically, and learn to make thoughtful, informed decisions.
- The use of Artificial Intelligence has had a significant impact across many industries, improving efficiency and performance (Brynjolfsson & McAfee, 2017; Davenport & Ronanki, 2018). However, this technological advancement has raised major ethical questions. Issues such as the inclusion of personal data, algorithmic discrimination, employment impacts, and automated decision-making assistance have raised serious concerns about the use of AI.

Since the terms deep learning and machine learning are often used interchangeably, it is important to distinguish between them. Deep learning is a specialised area within machine learning, which itself is a branch of artificial intelligence. We have seen that AI comprises several fields, unified by machine learning.

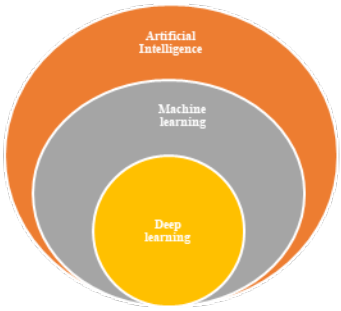

Figure 1. Key differences

Source: Author's processing

Traditionally, when programming a computer, an engineer writes a program to accomplish a specific task, such as unlocking a smartphone when the correct code is entered. Similar to how an engineer constructs a road to facilitate travel between cities, the goal is clear, and the route is easily defined (when the code is correct, unlock the phone).

The algorithm is simply a set of instructions that the computer must follow. In machine learning, these instructions produce a model, which is a component of an AI system capable of processing new data. The algorithm dictates how the model should be refined to perform well at the task, a process known as training.

Deep learning is a term frequently associated with AI. In reality, it is an approach to machine learning that loosely mimics the workings of the human brain. This is accomplished by training neural networks to solve a given task.

Deep Learning revolutionised AI since its widespread introduction in the mid-2000s, and it is responsible for many of the current generation of AI systems and new applications, e.g., self-driving cars, cancer screening, energy forecasting, etc.

II. DISCUSSIONS

Ethical Issues in AI (Artificial Intelligence) are a significant concern today because AI is being integrated into almost every part of life, from healthcare to finance, education to national security. Some of the most important ethical issues in AI include:

As artificial intelligence (AI) continues to evolve and integrate into everyday life, it brings with it a range of complex ethical and societal challenges. One of the most pressing concerns is privacy and data protection. AI systems, particularly those involving facial recognition, social media monitoring, and real-time analytics, require vast amounts of personal data to operate effectively. However, the way this data is collected, stored, and used often raises serious privacy concerns. As Zuboff (2019)

points out, the way personal data is collected today—often without real, informed consent—raises serious concerns about privacy and the potential for misuse. This is not just a technical issue; it is a deeply human one. If AI systems are to handle sensitive information, they must follow strict data protection standards and, more importantly, give individuals control over their own data.

Closely tied to privacy is the problem of algorithmic bias. Harini and Guttag (2019) have shown that machine learning models can unintentionally reinforce stereotypes about race, gender, or economic status. These biases are not just unfair—they can cause real harm in areas such as hiring, law enforcement, and healthcare. O'Neil (2016) adds that without proper oversight and transparency, these systems risk perpetuating existing inequalities. She advocates for clear regulations that ensure fairness and accountability.

Another growing concern is how AI is reshaping the job market. As automation becomes more common, many traditional roles are being replaced by machines or algorithms. While AI can certainly improve efficiency and boost the economy, it also puts millions of jobs at risk. Brynjolfsson and McAfee (2014) warn that if we do not act proactively, this shift could deepen the divide between rich and poor. That is why it is so important to create policies that support workers during this transition, especially those in vulnerable sectors.

Then there is the complex question of responsibility. When an AI system makes a harmful decision, who should be held accountable—the developer, the user, or the system itself? This is not always easy to answer, especially with today's highly complex "black box" models. Citron (2007) explains that the lack of transparency in many AI systems makes it difficult to understand how decisions are made, let alone who should be blamed when things go wrong. This highlights the urgent need for more explainable and transparent AI designs.

Finally, as AI systems become more autonomous and capable, society will eventually have to grapple with more profound philosophical questions. Can an AI system ever be held morally responsible for its actions? Does it have any ethical standing? These are not just academic debates—they are real challenges we will face as technology continues to evolve.

Scholars such as Bryson (2018) argue that we must carefully consider whether highly intelligent machines deserve moral consideration or rights, and, if so, what implications this would have for how we design and interact with AI.

III. RESULTS

Descriptive statistics are a vital first step in understanding the structure, central tendencies, and spread of our data. These statistics summarise the responses and help identify any anomalies or trends before proceeding with inferential analysis. In our study, we distributed our survey to 94

entities (institutions, organisations, companies) and received 84 completed surveys. The data from these questionnaires were processed using SPSS and analysed using descriptive statistics, correlation analyses, and linear regression. Three main constructs were derived from the questionnaire:

- Ethical Policies – How well-developed are ethical guidelines around AI?
- AI Autonomy – the level of independence AI systems have in making decisions.
- Social Impact – perceived effects of AI on society.

Variable	Type	Mean	Std. Dev.	Minimum	Maximum	Range
Ethical Policies	Independent Variable	2.1	0.8	1.0	4.0	3.0
AI Autonomy	Independent Variable	2.5	0.7	1.0	4.0	3.0
Social Impact	Dependent Variable	2.8	0.6	2.0	4.0	2.0

Table 1. Descriptive statistics

Source**:** Author's processing

From Table 1, the variable Ethical Policies (Mean = 2.1) indicates that AI ethical policies are underdeveloped or only moderately developed. A mean of 2.1 (on a 1–4 scale) indicates limited satisfaction or maturity in policy frameworks. Also suggesting that respondents perceive a lack of clear or enforceable ethical frameworks in current AI implementations across entities. (Standard Deviation =0.8), indicates relatively high variation in how participants perceive these policies—some might rate them as well-developed, while others might not. Organisations may need to standardise or better communicate their ethical AI policies. Next, for the variable AI Autonomy (Mean = 2.5), we can interpret this as indicating that AI systems are perceived as having moderate autonomy. This suggests that many entities use semi-autonomous AI, possibly in decision support rather than full decision-making. There is cautious adoption, possibly due to concerns about control, explainability, or unpredictability. (Standard Deviation 0.7), moderate variation—some companies are more reliant on autonomous systems than others.

There is a diversity of AI implementation levels. Organisations might be at different stages of AI maturity. Moreover, regarding the last variable considered, Social Impact (Mean = 2.8), we can interpret this as generally indicating that people view AI's societal impact positively. A mean close to 3.0 indicates optimism or satisfaction with how AI affects society, such as in healthcare, education, or public service efficiency. Standard Deviation (0.6): Responses are relatively

consistent—most participants agree that AI contributes positively. Despite concerns about autonomy and ethics, people acknowledge tangible societal benefits from AI—the correlation analysis. In Table 2, we see a strong positive correlation (r=0.62), indicating that as ethical policy implementation increases, the perceived social impact of AI also increases. This relationship is statistically significant, confirming that ethical guidelines likely enhance the legitimacy and public trust of AI systems. For variable AI Autonomy, and Social Impact (r=0.49), it shows that as AI systems become more autonomous, their impact on society is perceived as more positive, possibly due to efficiency and scalability. However, this is weaker than the correlation with ethical policies, suggesting that autonomy alone is insufficient without safeguards.

Independent Variable	Dependent Variable	Pearson Correlation	Significance (p-value)
Ethical Policies	Social Impact	0.62	0.001
AI Autonomy	Social Impact	0.49	0.015

Table 2. Correlation analyses

Source: Author's processing

For Regression and predictive Insights, the dependent variable is Social Impact (Table 3).

Predictor	Beta (Standardised)	p-value
Ethical Policies	0.51	0.001
AI Autonomy	0.34	0.018

Table 3. Regression Analysis

Source: Author's processing

From the table, we can see that Ethical Policies are the strongest predictor of perceived social impact, even after controlling for AI Autonomy. A 1SD increase in ethical policies results in a 0.51 SD increase in social impact. AI Autonomy also has a positive effect, but to a lesser degree.

III. CONCLUSIONS

Organisations with strong ethical policies benefit from greater stakeholder trust, compliance, and reputational resilience. The data suggests that ethics is not just a compliance tool but a strategic enabler for social value creation. Best practices might include algorithmic studies, bias assessments, and ethical oversight committees.

Autonomy enhances efficiency, scalability, and decision-making power, but without ethical boundaries, it risks becoming unaccountable. Stakeholders value autonomy when combined with

human oversight. Implementation levels of autonomy are based on context, with opt-in human override in high-stakes decisions (e., medical, legal, etc.).

How society perceives the benefits of artificial intelligence often comes down to three key factors: transparency, ethical responsibility, and ease of use and understanding. When companies and institutions invest in developing AI responsibly and ethically, they build public trust and encourage broader adoption.

As AI technologies become more embedded in our daily lives—impacting everything from healthcare to justice systems to education—the connection between ethical guidelines, autonomous decision-making, and the broader societal impact becomes more difficult to untangle. These three elements—ethics, autonomy, and social impact—do not operate in isolation; they constantly influence one another, creating a complex environment that requires thoughtful regulation and cooperation across sectors.

The question of autonomy, in particular, highlights a difficult balance between speed and control. The more independent AI systems become—especially when making real-time decisions without human supervision—the more we need to worry about how much we can trust them. This is especially true in sensitive areas such as medicine, criminal justice, finance, and even military operations, where a single decision can have serious consequences. That is why autonomy in AI should never mean the absence of oversight.

However, the challenges go beyond efficiency or job loss. Without careful design, AI tools can unintentionally reinforce social inequalities, normalise mass surveillance, or worsen discrimination. These are not side effects—they are central risks that need to be addressed from the very beginning of any AI project. Social responsibility should be part of the foundation, not an afterthought.

There is also much potential for AI to be used for the public good, whether that means making digital platforms more accessible, improving disaster response, or helping track and fight climate change. These kinds of projects deserve more attention and more substantial funding. At the same time, we need to be just as proactive about managing the risks. One idea worth adopting is to create social impact assessments for AI systems, similar to environmental assessments used before launching industrial projects. These tools can help both policymakers and developers anticipate unintended consequences and take steps to prevent harm before it happens.

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