Artificial Intelligence: Friend or Foe

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Abstract

Artificial intelligence (AI) is taking over by wave in both personal lives and corporations. It is being integrated with our military while replacing our jobs. In this paper, we look to find the applications of AI and whether it poses a threat to humanity or if it is here to compliment us. When AI is placed within our lives, how do we know it is safe for us? We need to know if there are bias or unanswered ethical questions in the creation of artificial intelligence. AI is composed of many different disciplines in this perspective. While we dive into a core three, we will work to answer whether it is a friend to humanity or a foe.

Keywords: ethical, military science, artificial intelligence, economics, integration

Artificial Intelligence (AI) is a technological marvel that has flooded key aspects of human life, specifically economics, military science, while raising many ethical concerns. A very important question has been raised over its ever integration into our way of life: is it a friend or foe to humanity? This paper looks to explore AI on an interdisciplinary capacity on its impact across these three disciplines, while aiming to unravel the complex narrative surrounding AI's relationship with humanity. Like any tool, artificial intelligence is neither inherently good nor evil; its impact on humanity hinges on how it is wielded. Guided by the 10-step interdisciplinary research process, we will work towards understanding each discipline's unique interaction with AI, combining these insights to present a well-rounded understanding of AI's role in shaping our world.

The interdisciplinary research method is crucial to our exploration of AI's role in humanity, given the complex nature of AI's impact. The application of artificial intelligence spans many disciplines: economics, military science, and ethics. Each discipline offers unique insights and perspectives. For instance, while AI might be seen as an advantage in economics for its potential to boost productivity, it might raise ethical concerns about job displacement and income inequality. Similarly, while artificial intelligence could enhance efficiency and precision in military operations, it could also escalate warfare and raise ethical dilemmas about autonomous weapons. An interdisciplinary approach allows us to unite these opposing viewpoints and develop a balanced perspective on whether AI is a friend or foe to humanity. It is this combination of insights that makes an interdisciplinary approach not just important, but essential to our research question.

Artificial intelligence is increasingly intertwined with economic progress. Its influence is expanding at an unprecedented rate, enhancing productivity and profitability, while

simultaneously posing a threat to human employment. The objective of AI is to “process data and yield outcomes akin to human cognitive processes in learning, decision-making, and problem-solving”. (Jain, 2019) The integration of AI into business or engineering decisions enhances productivity due to its capacity to swiftly process vast amounts of data. (Szczepański, 2019) Implementing AI to work in conjunction with humans can even further increase output. This instead of completely replacing the human aspect with artificial intelligence. On the positive side, AI has the potential to significantly boost economic growth. For instance, AI and robotics can increase productivity growth in both the corporate and factory environments. This is because AI is designed to enhance the efficiency of decision-making processes by analyzing large amounts of data. (Szczepański, 2019) It can also lead to the creation of new products and services, markets, and industries, thereby stimulating consumer demand and generating new revenue streams. (Szczepański, 2019)

Artificial intelligence is progressively being incorporated into the agricultural sector, offering a variety of benefits and challenges. AI’s ability to process vast amounts of data swiftly and accurately allows for more efficient farming practices. For instance, precision agriculture, a method that utilizes AI, enables farmers to monitor crop moisture, soil composition, and temperature in growing areas. This not only increases crop yields but also optimizes the use of resources like water and fertilizer. (Young, 2020) On the economic front, the integration of AI in agriculture can have significant positive impacts. It can boost productivity, reduce costs, and ultimately increase profitability for farmers. Furthermore, AI-driven innovations in agriculture could lead to the creation of new jobs and industries, contributing to economic growth. (World Economic Forum, 2021) The adoption of AI in agriculture also presents potential challenges. While AI can automate many farming tasks, this could lead to job displacement for those in

traditional farming roles. Additionally, the initial investment required for AI technologies may be unaffordable for small-scale farmers, potentially widening the economic disparity within the agricultural sector between privately owned and corporate owned farms. Therefore, while AI holds great promise for revolutionizing agriculture, it's crucial to navigate its implementation carefully to ensure equitable economic benefits. (Sood et al., 2021)

The integration of artificial intelligence has sparked a significant shift in the labor market, with automation replacing human roles in various sectors. This phenomenon, often referred to as "technological unemployment," is a growing concern. Scholars from the University of Oxford speculate that up to 47 percent of all jobs in the US could disappear by 2030 due to AI and automation. (Cross, 2023) Furthermore, the adoption of AI could also increase labor market disparities between workers who have the skills to use artificial intelligence effectively and those who do not. There would need to be training and programs to ensure an equal opportunity to grow these skills whether through development of AI or using AI to enhance productivity. Thus, the integration of AI into the economy presents both opportunities and challenges that need to be carefully managed.

The use and growth of artificial intelligence has increased significantly within military sciences. Some existing areas that are being enhanced with AI involve surveillance, cybersecurity, and robotics. (Svenmarck et al., 2018) Many of these integrations are also raising increasingly complex ethical questions and concerns. Surveillance specifically gains an enhanced advantage with accuracy and efficiency in intelligence gathering. This is because AI algorithms are able to sift through vast amounts of data in order to identify any patterns or anomalies that could be more easily missed by human intelligence analysts. Surveillance is also being used in coordination with robotics. An example of this is with unmanned aerial vehicles (UAVs), also

known to the common public as drones. UAVs are remotely controlled vehicles that are outfitted with advanced data-gathering tools. This includes cameras, sensors, and more. Unmanned aerial vehicles are starting to move in a direction where they are controlled and operated by AI. However, there will still be some human interaction where human controllers determine things such as when to take off and what locations to travel to. When these technologies are combined, there will work to "analyze data from a battlefield, such as the location of enemy combatants, the terrain, and the weather conditions, to determine the best course of action for a particular mission." (Rashid et al., 2023b)

The integration of robotics with AI is revolutionizing the field of military robotics, leading to the development of autonomous weapons. These weapon systems can operate with minimal human intervention which in turn can reduce the risks to military personnel. However, it raises significant ethical concerns regarding autonomous weapons taking human life based on data driven decisions rather than human input. Additionally, the integration of artificial intelligence in cybersecurity significantly enhances defense mechanisms for all types of information systems. In terms of cyber-attacks, AI and machine learning (ML) can be used to detect and respond to these threats in real time. This provides increased response time and accuracy that is difficult to achieve when it is left to human analysts alone. (Zhang et al., 2021) While using human analysts and these detection systems together, greater accuracy and reaction can be achieved.

The ethical implications of artificial intelligence are vast and complex, particularly as AI becomes increasingly integrated into various disciplines such as the ones we have discussed already: economics and military science. In economics, AI can boost productivity and efficiency, but it also raises concerns around human job retainment. On one hand, this will significantly

increase work output, but it will also harm income for families. In military science, the use of AI can enhance operational efficiency and decision-making capabilities. There are also significant ethical challenges set forth. The development of autonomous weapons systems, as mentioned above, raises questions about accountability, the potential for errors, and the risk of escalation if these systems are used in warfare. Furthermore, the use of AI in surveillance and cybersecurity could infringe on privacy rights and lead to misuse of collected data. Thus, the integration of AI into military science calls for careful consideration of these ethical implications and the development of strong oversight procedures.

Beyond economics and military science, the ethical implications of artificial intelligence permeate every aspect of its application. A major area that this includes is data privacy. As AI systems often rely on large datasets for training and operation, there are concerns about how this data is collected, stored, and used. Without proper safeguards, there's a risk of sensitive information being misused or falling into the wrong hands, such as personally identifiable information (PII). Furthermore, as AI systems become more autonomous, questions arise about decision-making authority and accountability. If an AI system makes a decision that leads to harmful consequences, who is responsible? These ethical considerations show why it is imperative to implement regulatory frameworks and ethical guidelines in the development and deployment of AI.

There are more aspects to ethics that need to be considered as well, one example being transparency. As AI systems become more complex, understanding how they make decisions can be challenging. This lack of transparency in AI systems, often referred to as the "black box" problem, can make it difficult to hold AI systems accountable for their decisions. The "black box" problem more specifically refers to the opacity of AI systems, namely those based on

complex algorithms such as deep learning. These systems can make decisions or predictions based on their training; however, it is often difficult to understand or explain how they arrived at a particular outcome. Another ethical aspect is fairness. (Zednik, 2019) AI systems can inadvertently perpetuate or even aggravate existing biases if they are trained on biased data. Therefore, ensuring fairness in AI systems is a critical ethical challenge. Lastly, the potential misuse of AI for malicious purposes, such as deepfakes or AI-powered cyber-attacks, raises ethical concerns about the misuse of technology. These considerations highlight the need for a robust ethical framework for AI that promotes transparency, fairness, and accountability while preventing misuse.

The applications of artificial intelligence (AI) in military science, economics, and ethics provide a multifaceted perspective on whether AI is a friend or foe to humanity. It largely depends on the strong ethical morals of companies, governments, and engineers who create AI and ML. In military science, AI can enhance operational efficiency and decision-making capabilities, but it also raises significant ethical challenges, such as accountability and the potential for inhumane use in war. AI has the potential to revolutionize military operations; It can enhance surveillance, improve decision-making, and even lead to the development of autonomous weapons systems. Meanwhile, the use of AI in surveillance could infringe on privacy rights and lead to misuse of collected data. This is where strong security protocols are policies are implemented against the misuse of AI applications.

In economics, AI can significantly boost economic productivity by automating tasks, improving efficiency, and enabling the development of new products and services. However, the economic benefits of AI are not distributed evenly. The automation of jobs, particularly those involving routine tasks, job displacement is a pressing issue. Furthermore, the economic benefits

of AI are likely to be concentrated in sectors and regions that are at the forefront of AI development and use. Because of this, policies may be needed to address these distributional effects and ensure that the economic benefits of AI are shared widely. This is where ethics tie in. Artificial intelligence raises complex questions about privacy, accountability, fairness, and transparency. For instance, as AI systems often rely on large datasets for training and operation, there are concerns about how this data is collected, stored, and used. As these systems become more autonomous, questions arise about decision-making authority and accountability. If an AI system makes a decision that leads to harmful consequences, who is responsible? This calls for the implementation of frameworks and ethical guidelines in the development and deployment of AI.

The integration of artificial intelligence into various disciplines such as military science, economics, and ethics can be combined for safe, effective, and productive use. This requires a balanced approach that maximizes the benefits of AI while minimizing its risks. In military science, this could mean developing robust oversight mechanisms for AI systems and adhering to international laws and standards. In economics, it could involve implementing policies to address the loss of jobs and income inequality caused by AI. In ethics, it necessitates the development of strong regulatory frameworks and ethical guidelines for data privacy and accountability. By drawing on insights from all these disciplines, we can navigate the complex landscape of AI and ensure its development and use align with our societal values and goals. This in turn will create a strong friend to humanity where we can advance technological marvels.

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