

# Ethics and Risks of Artificial Intelligence

Jyh-Woei Lin

Department of Electrical Engineering, Southern Taiwan University of Science and Technology, Tainan, 710301, Taiwan

Corresponding author: Jyh-Woei Lin | E-mail: [pgjwl1966@gmail.com](mailto:pgjwl1966@gmail.com)

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## Abstract

Artificial intelligence (AI) applications are already everywhere in our daily lives. Some possible ethics and risks in AI applications include algorithm bias, related technology and products deviating from their original purpose, having both good and evil uses, and poor algorithm design or existing technology limitations. In recent years, various countries have formulated regulations for the AI. In 2019, Taiwan formulated so-called Guidelines for the research and development of AI as a public policy, hoping to improve the problems of ethics and risks caused by the development of AI. However, this policy does not have its own legal basis. Therefore, we call for the establishment of rigorous AI with a legal basis (called AI law) to prevent unrestricted AI development and application, and this law can prevent AI from endangering human safety.

**Keywords:** Artificial Intelligence (AI); Ethics and Risks; Public Policy; AI Law; Human Safety.

## 1. Introduction

When discussing artificial intelligence (AI) (Figure 1), what do we think of? Is it the heartbreaking little robot boy, who never looked forward to the love of a human mother, in the movie, directed by Steven Spielberg? Or those robots or central systems in the movie called I, Robot in 2024 starring Will Smith that did not obey the three laws of robots? It can beat the champion in playing Go (Figure 2), and it can also identify suspected diseased cells in X-rays faster and more accurately than radiology technicians [1]. What's not great about it is that an AI that is good at playing Go can only be good at playing Go, let alone not knowing how to play cards; it doesn't even know what playing cards are! Moreover, every time AI learns something new, it almost always has to practice it again. We have to do many test questions constantly to be able to learn them, unlike humans, who usually learn by analogy after being taught a few times. However, even though the current AI in the world is artificial narrow intelligence (ANI) [2-4], Generative AI (GAI) and artificial general intelligence (AGI) have also gradually emerged [5-7]. In fact, when searching for information on Google and message recommendations on Facebook or Instagram, some functions, such as "Siri is it raining outside now?" have been used via smartphones. Therefore, AI applications can be seen everywhere in our daily lives. However, it is precisely because people have gradually discovered the problems or harm it may cause when AI has been used in recent years.

## 2. Ethics and Risks

Some possible ethics and risks in AI applications, such as the GAI, AGI and ANI, will be described.

(1) The first possible ethical issue and risk is algorithmic bias. AI is always poor in judgment accuracy or prediction results for certain groups, resulting in results that may be systematically detrimental to this group. (2) The second possible is ethical issue and risk is that AI technology. (3) The third possible ethical issue and risk is that some AI technologies or products themselves may have dual uses, both good and evil. Drones can help farmers sow seeds in agriculture, but they can also be used as automatic killing weapons; they can also be used to search for how to generate the least toxic drug synthesis algorithm, which can also in turn become the search for how to generate the most toxic drug synthesis algorithm. (4) The fourth possible ethical issue and risk is problems caused by poor algorithm design or existing technical limitations. In terms of poor algorithm design, for example, a chess-playing robot arm may accidentally grab a human chess player's finger and break it because it is not designed with anti-fool devices such as force feedback or pause when movement is blocked. In terms of existing technical limitations, traffic signs for road driving may often be old or dirty in reality. Although it may not affect interpretation for human driving, it may cause serious misunderstandings for self-driving cars. For example, they may fail to correctly recognize a no-travel sign and continue to drive or misjudge the speed limit from 40 kilometers to 90 kilometers. However, the above situation may also be caused by malicious attacks on the self-driving network, control permissions, or object recognition models. Therefore, we call for the establishment of a rigorous AI policy with a legal basis (called AI law) to prevent unrestricted AI development [8] and application, and this law can prevent AI from endangering human

safety. In addition, we will also discuss the challenges of AI law.

### 3. Challenges of AI Law

The challenges of AI law include: (1) Rapid Technological Evolution vs. Lagging Laws: The pace of AI technology updates far outpaces the speed of lawmaking, leading to gaps or delays in legislation and impacting regulatory effectiveness. (2) Complex Liability Definition: AI's autonomous behavior involves multiple parties, including developers, users, and platform providers, making legal liability allocation difficult. (3) Cross-border Legal Conflicts: Different countries have varying legal requirements regarding privacy, regulation, and ethics, requiring companies to comply with multiple laws, increasing compliance costs. (4) Over- or Under-Regulation: Over-regulation may stifle innovation, while under-regulation may lead to public safety and ethical risks. (5) Social Trust and Public Awareness: Public distrust of AI may hinder legal implementation, necessitating policy transparency and public education.

### 4. Discussion

Some possible ethical issues and risks of AI include algorithm bias, related technology or products deviating from their original purpose, having both good and evil uses, and poor algorithm design or existing technology limitations. However, how can one reduce these ethical issues and risks? Therefore, the EU's draft AI rules [9]. Although the ethical values, principles or behavioral norms proposed by these documents seem to differ, after years of discussion and exploration, some consensus has gradually emerged. Compared with the aforementioned international documents, Taiwan was relatively late in its formulation. For example, in 2019, the Ministry of Science and Technology (now renamed the National Science Council) formulated the so-called Guidelines for the Research and Development of AI as a public policy. However, this policy does not have its own legal basis. The three ethical values and eight behavioral guidelines proposed basically cover the latest international AI development guidance documents mentioned above. Frequently mentioned content, the so-called three ethical values include people-oriented values, sustainable development, and diversity and tolerance. The behavioral guidelines include common prosperity and mutual benefit, safety, accountability and communication, autonomy and control, transparency and traceability, explanatory ability, and personnel. There are eight items in total, including privacy and data governance, fairness and nondiscrimination. In the future, when readers see what new AI technologies or products have emerged, they may try to evaluate whether they meet these three values and eight behavioral guidelines. If not, which item is not met? Which of the common ethical issues and risks introduced above is the reason for noncompliance? If not, what other ethical issues or risks have been ignored in the past but deserve attention? AI technology is developing rapidly, and its applications in daily life are becoming increasingly widespread.

However, considering that legal provisions are mandatory, they must be very cautious when formulating so that they are not easy to address, and provisions that inappropriately hinder innovation and development will likely be enacted without knowing the situation. In addition, the enactment of laws must also have a certain degree of stability and cannot change orders daily; otherwise, those who comply with the regulations will be at a loss as to what to do. Therefore, it is conceivable that the problems and risks caused by legal regulations failing to keep up with emerging technologies are the norm, and this is not the case when AI technology is used. If people can develop their own sensitivity to AI ethical issues or risks, they can exert the power of citizen supervision or assist government supervision, evaluate whether AI development or users are doing everything possible to avoid harming specific individuals or groups, and gradually improve AI development. Authors and mass media often exaggerate the capabilities of AI but often evade or avoid talking about the ethical issues or risks it may bring.



Figure 1: Artificial intelligence (AI)

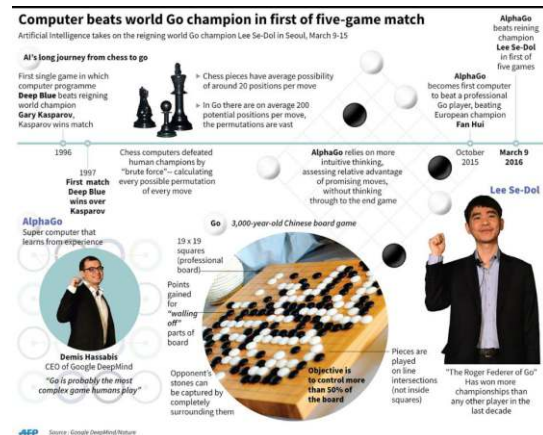


Figure 2: Game over! A Google-developed computer wins series against Go champion (Graphic on a battle of wits between Artificial Intelligence and the world champion Go player, taking place in South Korea March 9-15, in a five-game match of the ancient Chinese board game—AFP pic, March 12, 2016).

## 5. Conclusion

Recommending messages on Facebook or Instagram, recommending videos to watch on YouTube or Netflix, scanning your face to unlock your phone, and artificial intelligence (AI) applications are already everywhere in our daily lives. Some possible ethics and risks in AI applications are introduced. The first possible ethical issue and risk is algorithmic bias. The second possible ethical issue and risk is that AI technology has deviated from its original purpose. The third possible ethical issue and risk is that some AI technologies or products themselves may have dual uses, both good and evil. The fourth possible ethical issue and risk is problems caused by poor algorithm design or existing technical limitations. In recent years, various countries have formulated regulations related to the development of AI. For example, in 2019, Taiwan formulated so-called Guidelines for the research and development of AI as a public policy, hoping to improve the problems of ethics and risks caused by the development of AI. However, this policy does not have its own legal basis. Therefore, we call for the establishment of a rigorous AI policy with a legal basis, such as an AI law, to prevent unrestricted AI development and application, and then, the law can prevent AI from endangering human safety.

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## Data availability statement:

The data and information are requested from the author.

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