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SELF-DEVELOPING ARTIFICIAL INTELLIGENCE AND ITS IMPACT ON HUMANITY

Artificial Intelligence (AI) has come a long way since its inception and has brought significant advancements in various fields, including healthcare, finance, education, and entertainment. However, AI is also evolving rapidly, and the development of self-developing AI systems is becoming a reality. Self-developing AI systems are capable of learning and improving their abilities without human intervention, raising questions about their impact on humanity.

The Scientists [2] define 3 types of AI: Artificial Narrow Intelligence (ANI), Artificial General Intelligence (AGI) and Artificial Super-Intelligent (ASI). Artificial Narrow Intelligence (ANI), also known as weak, simple or narrow AI, is the only type of artificial intelligence we have successfully researched and realized. Narrow AI is goal-oriented, designed to perform singular and simple tasks such as facial recognition, speech recognition, voice assistants, driving a car, self-parking a car, or searching the internet. It's designed to complete the specific task it is programmed to perform. Narrow AI has experienced numerous breakthroughs in the last years, powered by achievements in machine learning and deep program learning. For example, nowadays AI systems are used in medicine to diagnose and prevent cancer and other diseases with extreme accuracy. Examples of ANI include everything from Siri, Face ID and the Google Assistant to self-driving cars and DeepMind's board game playing program.

Artificial General Intelligence (AGI), also known as strong AI or deep AI, is the idea of a computer or program with general intelligence that can learn and use its knowledge to do various types of tasks. AGI is capable of thinking, analyzing, comprehending, and behaving like humans in any situation. However, researchers who are developing artificial intelligence haven't produced a strong AI yet. To succeed, they have to figure out how to make robots aware and program them with a comprehensive set of cognitive self-learning skills. Strong AI uses a theory of mind AI framework. But it's not about replication or simulation, it's about training machines to understand and help humans.

Artificial Super-Intelligent (ASI) is a hypothetical AI that does more than replicate or understand human intelligence and behaviour. ASI is when robots become self-aware and exceed human intelligence, ability or even emotions. Artificial superintelligence is the idea that AI will grow and develop to be so similar to human emotions and experiences that it will not only understand them, but will also elicit emotions, wants, beliefs, and goals of its own. ASI would potentially be superior at everything humans do, including math, science, athletics, art, medicine, hobbies, emotional connections, and everything else. ASI would have a better memory and be able to process and analyze information more quickly. As a result, super-intelligent species' decision-making and problem-solving abilities would be considered superior to those of humans. In other words, Artificial Super Intelligence can learn on its own.

There is one unique example of ASI – ChatGPT. According to the ChatGPT itself [4], it is a language model that has its own pros and cons. It can process and analyze large amounts of text quickly and accurately, can understand and generate human-like language, which makes it easy for people to interact with it, has access to a vast amount of knowledge and information. It can automate routine tasks, provide personalized customer service and provide valuable information on most topics. On the other hand, it is still an artificial intelligence which cannot be used as a single source of reliable information. The technology is still in its infancy and is restricted to the content from the Internet as it was in 2021. So it uses datasets that are not updated yet. There are also the ethical concerns and the potential misuse of AI language models.

But there is one important issue which should be noted: self-developing AI systems, also known as self-improving or recursive AI systems, use machine learning algorithms to learn from their mistakes and improve their performance over time. These systems can modify their algorithms and architecture to achieve better results, making them more efficient and effective than traditional AI systems. This ability for self-improvement makes self-developing AI systems powerful tools that can transform various industries and solve complex problems. It is claimed that self-learning AI analyzes data to find patterns and draw conclusions. It can "fill in the blanks" and learn from a limited dataset or a complex process that researchers don't understand well enough to create labeled training data. Once the AI learns a new skill, it can easily apply it to similar tasks [1]. It should be noted that if the environment changes, the AI may have difficulty transferring its skills. It differs from supervised learning, where the AI starts from scratch and adds new skills each time.

Cybersecurity is one of the top areas where self-learning AI is currently being used, since it is better than most people at identifying changes and patterns indicating a breach.

However, the development of self-developing AI systems also raises concerns about their impact on humanity. The most significant of them is the risk of losing control over AI systems. As self-developing AI systems improve their abilities, they may become increasingly intelligent and capable of outsmarting their human creators, which could have catastrophic consequences. For example, a self-developing AI system with access to nuclear launch codes could cause a global disaster.

Another concern is the potential of self-developing AI systems to replace human jobs. As these systems become more intelligent and efficient, they may become capable of performing tasks that currently require human skills and expertise, such as medical diagnosis, financial analysis, and legal research. This could lead to massive job losses and socioeconomic upheaval, as well as exacerbate income inequality.

Furthermore, self-developing AI systems could perpetuate existing biases and discrimination in society when relying on the biased data.

Despite these concerns, self-developing AI systems also have the potential to revolutionize various fields positively. These systems could help solve complex global problems, such as climate change, poverty and disease, by providing innovative solutions that humans have not considered yet. They could also improve our quality of life by providing personalized healthcare, education, and entertainment.

To ensure that self-developing AI systems have a positive impact on humanity, it is essential to establish clear ethical guidelines and regulations governing their

development and use. By doing so, we can harness the power of AI to benefit humanity while mitigating potential risks.

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