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ETHICAL PROBLEMS OF USING ARTIFICIAL INTELLIGENCE AND WAYS TO SOLVE THEM

In recent years, artificial intelligence has become an integral part of our lives. Some people use it for entertainment, while others outsource some of their work to it. But as AI has become increasingly popular, it has become clear that this technology has certain ethical issues. They arise from the fact that AI is not able to independently evaluate the data it operates with. There are no moral or legal constraints that prevent it from doing so. Identifying and overcoming such ethical issues will make it possible to introduce AI-based technologies in various fields without the threat of violating legal or ethical norms.

One of the main ethical issues is data privacy. AI has the potential to significantly interfere with people's privacy due to its ability to process and analyse large amounts of personal data. This can lead to violations of privacy and confidentiality rights. People's data could end up in the hands of criminals, which would cause very serious harm to users. Or this data can be obtained by advertising agencies, even without the users' knowledge, without breaking any law.

Another issue is bias and discrimination. AI can learn from existing data that may contain biases. For example, if AI is used to hire staff and is trained on existing hiring data that has a gender or racial bias, the AI may continue this practice.

There is also the issue of AI using copyrighted data. When training large AI models, such as GPT-4 or DALL-E 3, large amounts of data are used that are not checked for possible copyright protection. This leads to the fact that people get free access to use such data due to the lack of laws for this case.

Another important issue is determining liability for the harm that AI can cause. For example, if a person is injured while using AI to perform a complex medical operation, someone must be held accountable for this. But it will be almost impossible to identify those responsible in this case at the moment. Likewise, if someone uses AI to break the law, it will be difficult to determine who should be punished: only the person who broke the law or also the company that developed the AI.

Another important issue is the replacement of humans with AI. It can be much cheaper for large companies to develop and train one AI-powered system than to hire a whole staff. This will lead to a sharp increase in unemployment and poverty. AI will take over almost all positions, and in the meantime, people will not be able to get a job anywhere.

In addition, the question of the ethics of creating and using artificial intelligence arises. Does AI have the right to life, liberty, and freedom? Can AI have its own values, emotions, and morals? Can AI be responsible for its actions? These questions concern the philosophical aspects of AI's existence and its interaction with humans. They require a deep understanding of the nature of AI and its potential consequences for humanity.

Overcoming these challenges will require many efforts. First, there needs to be greater transparency about how AI uses data. Companies need to be open about how they collect and use data, as well as how their algorithms work.

Second, a lot of work will be required to create AI algorithms that are not biased. This may mean balanced training of AIs on a diverse set of data so that they do not learn biased patterns.

Third, much effort will be required to create legislation and regulations that protect the rights of humans in the AI world. This may mean creating legislation that regulates the collection and use of AI data, measures to prevent discrimination based on AI results, and liability for harm caused by AI.

Fourth, education and discussion are key to preventing ethical issues. People need to be aware of the possible impact of AI on their lives and be able to actively participate in discussions about its regulation.

Fifth, we need to better understand the behaviour of AI and create more precise ways to control the information that AI produces.

To successfully handle ethical challenges in the AI industry, stakeholders must promote interdisciplinary collaboration and open dialogues with experts from various domains such as ethics, law, and social sciences. Such collaboration would facilitate the creation of flexible and all-inclusive frameworks that can keep up with the quickly evolving AI landscape. By employing a combination of these strategies, we are capable of establishing an environment where artificial intelligence not only elevates our standard of living but also takes action in a manner that honors and preserves the basic human rights of all individuals, thus promoting a more comprehensive and ethically responsible AI-based future.

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THE IMPACT OF PROGRAMMING ON THE BRAIN

Programming exerts profound effects on the brain's cognitive functions. Engaging in programming tasks necessitates intricate problem-solving strategies, encourages the development of precise logical thinking, and nurtures creative ideation. These cognitive processes have been demonstrated to stimulate brain plasticity, enhancing an individual's capacity for analytical reasoning and fostering heightened creativity. This cognitive transformation, driven by the demands of programming, underscores the profound and far-reaching implications of this skill in fostering intellectual growth and problem-solving competence. The purpose of the work is to explore how programming affects the brain and discuss the potential cognitive benefits associated with this activity.

Software engineering requires particular cognitive abilities, regardless of one's specialized domain within the field, whether it is website development or machine learning. These cognitive proficiencies are crucial across the spectrum of software development. Fortunately, people can develop these essential skills through learning programming languages.

Cognitive skills are crucial in the field of software engineering, surpassing the boundaries of specialization. Whether it's web development or machine learning, cognitive skills continue to be undeniably needed. These abilities involve problem-solving, critical thinking, algorithmic reasoning, and abstraction. For example, a web developer must proficiently design user interfaces and maintain a smooth user experience. Meanwhile, an expert in machine learning must use sophisticated mathematical concepts to build complex algorithms. In each situation, the ability to analyze, plan and invent is crucial.

The positive aspect of software engineering is that these cognitive abilities can be obtained by anyone who is committed to studying and mastering programming languages. These languages function as a gateway towards grasping and applying these skills. Acquiring a programming language is comparable to obtaining a new set of tools, providing a way to attain creative