PSYCHOLOGICAL EFFECTS OF ARTIFICIAL INTELLIGENCE ON HUMAN BEHAVIOR

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Abstract:

Artificial Intelligence (AI) is rapidly becoming integrated into various aspects of human life, from healthcare to education to business. While Artificial Intelligence has the potential to improve efficiency, accuracy, and convenience, it also raises concerns about its psychological impact on human behavior. This paper examines the positive effects of Artificial Intelligence in fields such as Education and Health, and the negative psychological effects of Artificial Intelligence, including job displacement, loss of privacy, social isolation, and biases. Additionally, we discuss the potential for Artificial Intelligence to undermine human creativity and autonomy. To mitigate these effects, we argue for responsible and ethical development and use of AI, prioritizing transparency, accountability, and fairness in AI systems, and promoting a human-centered approach to AI. Through these measures, we can maximize the benefits of AI while minimizing its negative psychological impacts on human behavior.

Key Words: Psychological Effects, Artificial Intelligence (AI), Human Behavior

Introduction

In the current world, we live in, technology is constantly evolving. We use technology in practically every facet of our lives. Artificial intelligence (AI) is a highly sophisticated technology that has developed significantly over the past several years. It touches on various aspects of human life such as Education, Finance, Transportation, Health, gaming, communication, etc.

We are already using some Artificial Intelligence (AI)-based applications, whether we are aware of it or not. For instance, to communicate with each other we use social media apps like Facebook and Instagram, and for transportation

purposes, we use apps such as Uber and Tesla. For online shopping, we use Amazon and eBay. These are just a few examples of AI-based applications. These applications use Artificial Intelligence systems in order to work. additionally, there are so many fields that use Artificial Intelligence to facilitate their work like industries, hospitals, educational institutions, etc.

According to American Psychological Association (n.d.), "Artificial intelligence (AI) is a subdiscipline of computer science that aims to produce programs that simulate human intelligence." ("Artificial Intelligence" section, para.1). As described in this definition, human intelligence includes thinking, reasoning, learning, problem-solving, etc. AI has various subfields, including robotics, computer vision, machine learning, game playing, and expert systems.

This research paper will explore the psychological effects of artificial intelligence on human behavior. Specifically, we will examine how human-like interaction, automation bias and discrimination, job displacement, privacy, and security related to Artificial Intelligence impact human behavior. By understanding the psychological effects of Artificial Intelligence, we can better prepare for its impact on society and ensure that it is used in a way that benefits humanity.

Positive effects of Artificial Intelligence

let's first talk about the good thing about Artificial Intelligence. there is some benefit of AI in our daily life. Artificial Intelligence has the ability to improve our lives in a variety of ways, from enhancing work efficiency to improving healthcare and education.

Education

Artificial intelligence in education has a wide range of advantages. There are so many ways we use Artificial Intelligence for educational purposes. For example, we use Google searches for our queries regarding any topic. Furthermore, there are tons of websites and applications that use AI for citation generation, and plagiarism checks (Subrahmanyam, V. & Swathi K., 2018). additionally, Artificial Intelligence is used for analyzing research data and converting them into tables and graphs. This is helpful for students as well as a teacher because it facilitates their work. AI technologies assist teachers in analyzing the curriculum and course material in order to recommend tailored content (Chen L. et al., 2020).

Healthcare

Artificial Intelligence (AI) has changed the healthcare profession by enabling faster, more accurate diagnosis, and individualized treatment programs. Healthcare professionals may enhance diagnostic precision, create individualized treatment regimens,

automate repetitive operations, and anticipate the probability to develop specific diseases.

IBM Watson is a great example of this. A customized treatment plan may be created using AI analysis of patient data, including genetic and medical history. For instance, Jiang et al. (2017) observed that Watson for Oncology, an AI-powered system, can assist doctors in creating individualized treatment regimens for cancer patients, improving results. Healthcare practitioners can enhance patient results and satisfaction by tailoring treatment strategies.

Automation

Artificial Intelligence has the ability to reduce time in a variety of industries, including healthcare, education, finance, and manufacturing. AI may save workers time and increase productivity by automating repetitive activities, evaluating data more quickly, and delivering tailored recommendations.

AI may automate regular jobs like data entry, appointment scheduling, and replying to questions, freeing up people's time to focus on more complicated challenges. Research by Liao et al. (2020), for example, discovered that an AI-powered chatbot for customer support decreased the time spent by customer service employees by up to 50%. AI can boost corporate productivity by automating regular

processes.

Negative effects of Artificial Intelligence

Concerns are growing about the potential negative psychological impact of Artificial Intelligence (AI) on human behavior. While AI can potentially improve human skills and quality of life, there are concerns that it could have unintended adverse consequences for mental health and well-being.

Social loneliness and isolation

By limiting face-to-face encounters and growing dependency on virtual communication, Artificial Intelligence might cause social loneliness and isolation. The usage of social media platforms is one method AI may lead to social loneliness and isolation. While social media platforms can help individuals connect and communicate, they can also lead to fewer face-to-face conversations (Turkle, 2011).

With older persons being less used to or resistant to utilizing technology, the usage of AI can lead to generational disparities in technology use (Czaja & Lee, 2007). As older persons may have limited access to or familiarity with the communication technology utilized by younger generations, this can cause feelings of social isolation.

Anxiety - job security and privacy

As the use of Artificial Intelligence continues to grow, anxiety regarding job security and privacy arises. Concerns regarding job displacement have arisen as a result of how quickly AI is altering the employment landscape by automating functions that were previously performed by humans. The World Economic Forum estimates that by 2025, AI and automation would eliminate 85 million jobs globally while creating 97 million new employments in sectors like renewable energy and healthcare (World Economic Forum, 2020). It is crucial to support education and training programs that provide people with the skills they need to work alongside AI systems in order to combat the possible loss of jobs due to AI (World Economic Forum, 2020). Ultimately, this loss of a job or job displacement can lead to anxiety in an individual.

Large volumes of personal data are being collected and processed using artificial intelligence (AI) technology, which is causing privacy and data protection issues. AI may compromise privacy by gathering and analyzing personal data without the subjects' knowledge or consent (Barocas & Selbst, 2016). Certain AI systems, for instance, may gather information from online activities including browser history, social media interactions, and location data. This information can be used to infer private information about people, such as their political beliefs and health state.

Dependency

When people overuse Artificial Intelligence, they gradually become more and more dependent on that. Using automated decision-making systems is one way AI may lead to dependence. Because of the way these systems are built, there may be less need for human involvement and decision-making as judgments are made using algorithms and data analysis (Burrell, 2016). Those who significantly rely on these systems may suffer a loss of autonomy and critical thinking abilities as a result.

Loss of creativity

There is a rising worry that the widespread adoption of Artificial Intelligence (AI) in a variety of industries may diminish workers' creativity. While AI may automate repetitive tasks and offer fresh insights, it may also stifle original thought and limit chances for creative expression and innovation from humans. It is necessary for Organizations to find the right balance between AI automation and human creativity to make sure that AI is utilized as a tool to complement rather than replace human innovation.

Bias

Artificial Intelligence sometimes gives biased information or decision.

this information can lead to biased behavior in humans as well. Algorithms are designed by humans, who have their own set of principles, morals, assumptions, and conscious and unconscious prejudices about the world and these biases can impact how AI models work (American Psychological Association, 2021).

Conclusion

In conclusion, the use of Artificial Intelligence can have both positive and negative psychological effects on human behavior. On the positive side, AI can provide increased convenience, efficiency, and accuracy in various domains, such as healthcare, education, and business. However, the negative psychological effects of AI cannot be ignored, including the potential for social loneliness and isolation, job displacement, loss of privacy, dependency, and biases. AI can also contribute to undermining human creativity and autonomy.

It is critical to encourage responsible and ethical AI development and use in order to reduce the negative psychological consequences of AI. This involves guaranteeing AI system transparency, accountability, and impartiality, as well as offering training and information to assist users in understanding and navigating AI. Furthermore, encouraging a human-centered approach to AI can aid in prioritizing human needs and values in the development and application of AI.

We can maximize the benefits of AI while limiting the negative psychological effects on human behavior by tackling these problems.

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