

AI-Human interaction: An overview

By Asha Nozomi Terasaka Dwivedi

Author Biography

This research project was written by Asha Nozomi Terasaka Dwivedi, a 14-year-old, 9th grader. I am an Indian-Japanese student that studies at Genesis Global School, Noida, India. My love for computers started at a young age, when the school introduced how to code with blocks. At our school they provide us with optional subjects, in which I chose AI. We have many discussions on how AI perceives the language, how it is part of our lives, how it will develop in the future and what are few problems that we can solve with the help of AI. One of the most eye-catching topics for me was, if AI will take over the world, and will the people lose their jobs in the near future. At my school, many speakers from outside spoke about similar topics. Hence, it is exciting to finally get started in diving deeper into this situation.

Abstract

Artificial intelligence, a rather suitable machinery in today's fast paced world. AI is a field of research in Computer Science that develops study methods and softwares that perceive or collect environmental data from their surroundings. We may not know it, but AI is a huge part of our lives now, and we interact with them on a daily basis. It may be one that performs one task repeatedly, like a washing machine, or another that performs multi tasks, such as computers and phones. This paper focuses on how human beings perceive AI, and how these systems are affecting our daily life style as well as our thinking process. What makes human beings different from other beings is the ability to dream, create and perform as well as feel. In today's time, all I see are the various tools that are there to enhance our creativity to create something extraordinary. But perhaps these tools are also used in such a manner that users are feeling doubtful? In such a manner that the users are not ready to use their own imagination? A user who forgets how to socialise properly with real people? This paper is about how researchers can prioritise data collection and make predictions for the future we share with AI.

Keywords: Artificial Intelligence; environmental data; perceive; multi task; daily lifestyle; creativity; socialise; uncertainties; predictions

Introduction

Artificial intelligence is a revolutionary part of our modern history. This term is used almost everywhere near modern technology, be it a smartphone or a self driving car. The evolutionary change started from the 1950s when Alan Turing first published his work in Computing Machinery and Intelligence, introducing us to the Turing Test—a measure of computer intelligence, until today, in the 21st century where everyone, old or young, can create new AI machines and ideas as well as studies to provide a better program to make our lives easier, as well as make the impossible possible.

AI is a vast subject, meaning different things to everyone. Maybe a smartphone, maybe a bot that helps them complete their homework, maybe an assistant that helps them keep organised or maybe the cars that drive by themselves. Not many know the true meaning of AI—plausibly because there isn't one. But to sum it up in a sentence, Artificial Intelligence is an intelligence shown by a machine, which lets them perform tasks that are commonly associated with intelligent beings.

AI-human interactions, generally

In today's world, the interaction between AI and humans is an everyday thing. A few places where they interact with one another are namely—

Natural Language Processing Programs (Conversational AI)

This is a platform in which one can have a conversation with an AI. The AI may give suggestions, research, or analysis throughout the conversation. Many use these platforms to search up ideas and talk to them for fun to see how they respond.

Robotics

Robots can now be seen everywhere, especially in developed countries like Japan, China, etc. You may find robots that are placed there to give directions in a mall, to give suggestions, to ask for surveys, or just be placed for advertisement. There are a few robots that are able to showcase human expressions with their input knowledge on how they should react.

Personalization and recommendation system

Whether you go to Netflix, Youtube, Instagram, or Facebook, you will find that they are programmed in such a way for you to see videos or content related to the previous content you searched or watched. Many times they provide trending videos. This is due to the algorithm: the more likes a post has the more it shows on people's feed. The more of a content type you watch, the more content with that context will come to your feed.

Ethics and social implications

Most of the time, when you enter a website, a cookie acceptance notice pops up. This is to ensure the user knows what type of security the page has, and what personal security may be breached. This is also seen in the login pages. They provide us with the rules and regulations of their website/app and what type of protection they provide.

Ethical considerations important in AI-human interaction

The privacy and security of one's personal data should be heavily guarded. Non-bias and fairness are another few of the most important ethics in an AI-human interaction. The systems should be equitable to all, regardless of their background. They should be able to explain

their accountability in a situation and have a logical explanation that can be explained simply to humans. Ensure that AI provides legal and ethical decision making choices, according to society and human values. Make it a system that users can trust through transparency, reliability, and ethical behaviour. Address the possibility of the systems to be used for beneficial and harmful purposes according to the person's interest as well as the outcome of such happenings.

Potential social impacts in AI-human interactions

AI has helped out especially in the field of healthcare, education, and industries. Over the past few years, especially during the COVID-19 pandemic, we could see how these AI were being used—for online education support, redaction of syllabus for a better comfort in the student's life, the overflow of medical attention and overflow of patients in hospitals and even personal doctors. The industry has used AI to perform tasks like delivery of goods and online shopping. AI can perform easy and repetitive tasks with ease which allows their human user to focus on complicated and logic based tasks. They also are able to analyse data quickly which helps out in many industries.

Cons associated with AI-human interactions

Though they provide us with terms and conditions, and privacy warnings, many times passwords and private content get leaked. They are often seen as black boxes that make decisions without clear explanations, making it difficult to understand their output. Automation of tasks formerly performed by people may end up in loss of employment, especially in industries that include production, sales, and transportation. Over reliance on AI for

decision-making and problem-solving may harm human critical thinking and other capabilities. Due to the high reliance on AI systems, mistakes or malfunctions can have serious repercussions, particularly in crucial industries such as healthcare and driving autonomously.

AI systems executed in vital decision-making applications, such as autonomous automobiles or healthcare, can come across ethical or moral conflicts that are difficult to implement. AI technology such as deep falsification might produce attractive but fake content, potentially leading to deception, fraud, and a loss of belief in the press. AI-powered recommendation systems and social media algorithms have the potential to impact and regulate user conduct and opinions, providing ethical issues. Large AI models require immense computational capabilities to train and operate, leading to high energy consumption and impact on the environment.

The rapid pace of AI development generally eclipses the establishment of appropriate legal frameworks and standards, resulting in governance and oversight gaps. Designing AI systems that are user-friendly and accessible to people of various technical skill sets can be difficult, potentially minimising their effectiveness and adoption. The possible development of superintelligent AI, potentially could outperform human intelligence, raises serious existential hazards and ethical issues concerning control and safety. AI systems might have unplanned or undesirable penalties, especially when implemented in complex, real-world contexts.

Will AI take away our jobs?

Now, because AI is known and can perform tasks similar to how a human does or in an even more advanced way, it makes the lives of human easier as they can leave their tardy work to the machines, like washing clothes, identifying who is outside

the door, or even the easiest things like typing down the password into the phone. Though it is making their life easier, the people still fear that AI might one day take control over Earth, or they might take away all the jobs.

Next Steps

To solve this, I believe we need a rough percentage of how many people believe AI will be taking away jobs, and whether they think the government or the people are making additional jobs in replacement. This question could be done through a form. With the help of school associations, we can have it sent out to a wider audience.

Strategy No.	Issue Explored	Evidence Sought
1.	Usage of AI in completing assignments (school)	First, have a few students fill out a form anonymously so that it shows the rough percentage of students using AI to finish their homework and which apps they use. Also have a question regarding why they use it. This will show us the reason for their usage in AI. If this problem is negotiable and can be made in a more comfortable way for the students, this usage might stop. With research and deep learning into this matter, perhaps we can show them the real reason.
2.	Employment loss	This may also be conducted in the form of a survey. We may ask the school to help us out to reach a wider audience, specifically the parents. Though we may use social media, to be provided with the thoughts of different age groups and their reason for discomfort.
3.	Lack of human empathy and value	This is a developing resolution. I believe if we take the example of a brain we will be able to program an AI with different sections and their psychological use. We also must brainstorm in thinking how we learnt about these human values. Nowadays detecting emotions and inputting emotions have already started. But with human empathy and value, AI can be of help in court, and other places in need of strict judgement but also in need of emotions. With this method we may also create an AI that helps the humans to create possible solutions with better explanations. Though developing a new AI might take time, with this project it is certain that the view of AI might change.

Further unclarified questions:

1. Will AI really take most of the jobs? (This is a serious issue since population is growing rapidly)
2. Will AI take over the world in the near future?

3. Will we be able to make safer programming and security for the Ai-human interaction?
4. Are we doing the right thing with developing AI even more advanced? As we know curiosity may kill the cat.

Conclusion

AI is a wonderful technology to enhance our socialisation, protection digitally, and environment awareness. They help us be aware, lets us spread information rapidly, and helps us in performing repetitive tasks daily. But should we truly let AI handle every bit of our responsibilities and tasks? Let them take away our ideology, creativity and our excitement to have adventures? This research paper showcases the abilities the AI is able to perform for human beings in the digital world as well as the virtual world.

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