**Will AI replace CS/SE jobs?**

**Laiba:**

Good evening ladies and gentlemen,

Today, my team members and I are here to address one of the most talked-about topics in the tech industry, and that is whether AI will take over jobs in the Software Engineering and Computer Science fields.

We would first be discussing what is artificial intelligence, then define software engineering, how many ways AI has been helping us every day and in software engineering, and what are the stumbling blocks for AI.

Let us first understand what Artificial Intelligence is.

**Sabina:**

Artificial Intelligence or AI is the part of computer science concerned with designing intelligent computer systems. It is associated with intelligence in human behaviors such as understanding language, learning, and reasoning. This technology is used in computer vision, robotics, and machine learning applications. The artificial intelligence system does not require to be pre-programmed, instead of that, they use algorithms that can work with their own intelligence. The goal of AI is to make a smart computer system like humans to solve complex problems. Basically, it’s when a computer can perform or behave as a human in the closest way possible.

On the other hand, software engineering is the discipline of designing, creating, testing, and maintaining software in a systematic and organized manner. The role of software engineering goes far deeper and vaster than just developing software. In software engineering, the focus is to ensure that software is built and maintained long-term. It is also important for ensuring that software is secure, resilient, and can withstand cyberattacks and other security threats. The goal of software engineering is to ensure that the software is reliable, efficient, maintainable, and meets the needs of its users.

Now that we have a basic understanding of AI and SE, let's explore the possibility of AI taking over jobs in Software engineering and Computer science fields.

**Bharti:**

AI has replaced jobs outside of software engineering. For example, factories and warehouses are primarily run by robots, cashiers are replaced by electronic kiosks, and self-driving cars are being tested in several cities worldwide. However, the question remains, what can AI do for software engineering?

AI can write code, reducing the amount of time it takes to develop software, allowing software engineers to focus on more complex tasks. AI can be used to create more efficient and effective software. AI can do tasks such as code refactoring, bug fixing, and testing. AI can also be used to detect and identify patterns in data. This can be used to develop more accurate and efficient algorithms for software development.

However, it still has not replaced software engineering. Why is that? Where does artificial intelligence fall short?

**Amal:**

Firstly, AI lacks emotional intelligence. Emotional intelligence is one distinguishing factor that makes humans forever relevant in the workplace. As social animals, one basic, undeniable need of humans is the need for emotional connection with our kind. We achieve this connection through the chemical and biological interaction of several hormones and emotions between the parties involved. AI does not possess it as it comprises of software and chips, not biological cells. Regardless of how well AI machines are programmed to respond to humans, it is unlikely that humans will ever develop such a strong emotional connection with these machines. Additionally, for the testing of user interfaces of various webpages and mobile applications, there is a need for humans to test it as the machine can't replicate user experience Hence, AI cannot replace humans, especially as connecting with others is vital for business growth.

Secondly, AI can only work with inputted data. AI can only function based on the data it receives. Anything more than that would take on more than it can handle, and machines are not built that way. So, when the data input into the machine does not include a new area of work, or its algorithm does not include unforeseen circumstances, the machine becomes useless. Therefore, if you fear that AI may infiltrate all industries and eliminate the demand for your professional skills, you can rest assured that won't happen. Human reasoning and the human brain's power to analyze, create, improvise, maneuver, and gather information cannot easily be replicated by AI.

**Alizah:**

Thirdly, AI's creative process is limited to the data it receives. Unlike humans, AI lacks the ability to brainstorm new concepts or come up with innovative ideas. It can only work with the data it has been given and is restricted to given templates. Creativity is essential in the workspace, and it is the bedrock of innovation. AI cannot replace humans in this regard.

Fourthly, AI does not have soft skills, such as teamwork, attention to detail, critical and creative thinking, effective communication, and interpersonal skills. These skills are in demand in every industry, and they give humans the upper hand in the workplace over AI. Developing these skills requires a higher level of reasoning and emotional intelligence, something that machines lack.

**Bharti:**

Lastly, it's important to note that humans make AI work. Without human intelligence, there would be no artificial intelligence. Humans design and develop AI machines, input data, operate and maintain them. As AI applications continue to grow, so will the services of humans. We are essential in the development and growth of AI, and it's unlikely that machines will ever completely replace humans in the workplace.

**Laiba:**

As we move towards a more integrated tech landscape, we must learn to work with AI, not fear it. We need to understand that AI is designed to complement human ability and intelligence, not compete with it. We have to upskill, stay abreast with the latest trends in our field, and be innovative and creative to remain relevant in the ever-changing world of work. Furthermore, we must recognize that AI has its limitations. Its creative process is limited to the data it receives, and it lacks soft skills critical to workplace development and growth. Therefore, we should dismiss any speculations of AI overriding humans in the workspace.

In conclusion, AI is a powerful tool that has revolutionized many industries, including software engineering. While it can automate certain tasks and make software development more efficient, it still lacks the emotional intelligence, creativity, and soft skills that are essential for success in the workplace. Therefore, it is unlikely that AI will completely take over jobs in the field of software engineering. However, it is important for software engineers to continue learning and adapting to new technologies and trends to remain relevant and valuable to their employers. Thank you. Now you may ask any questions you have in mind.