To what degree will AI and robotics be parts of the ordinary landscape of the general population by 2025

CSSE 413 Artificial Intelligence

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First and second revolution demonstrated that the emergence of new technology will always reconstruct economy structure. We have witnessed the invention of Spinning jenny, one of the key elements in the first industrial revolution, vastly improved economy and reshape the society. Undoubtedly, millions of workers, who worked in the cloth factories, were worried about their employment. The Spinning jenny was a part of their ordinary landscape. Today, we have seen the significance of AI technology and the change it is causing to the society. Thus, the same question needs to be asked, whose job is at stake this time and to what degree will AI be parts of the ordinary landscape? I believe, the advance technology in Robotics and AI field will create new top-level jobs while most of the manual jobs will be replaced by AI or Robotics. However, this rearrangement will not completely alter the job market by 2025.

As John R. Searle discussed in his Minds, Brains, and Programs paper, machines cannot think because the formal symbol manipulations by themselves do not have any intentionality. With an input, however, machines can correctly give an output that satisfy the basic human demand, like what the person demonstrated in the Chinese room example. Thus, any job operating at an understanding level can be replaced by the AI and robotics. Blue-collar workers will be replaced by the ABB robotics; most of the translator will be replaced by google translate, and most of the chauffeur will be replaced by autopilot. From my personal experience, such changes are happening in the manufacturing factory. During my last internship in a truck manufacturing company, I witnessed the process of a shift of workers being replaced by autonomous robotic arms. Every automobile companies are producing electrical prototype, since electrical motor is cleaner and can be controlled by AI autopilot than combustion engine more easily.

However, other factors, including rate of return, will limit the impact of AI and Robotics. The reason why the vast majority of human are not using AI technology is because the rate of return is very low. Apple Siri assistant or Alexa are not the mainstream revenue nor the reason why customers purchase iPhones. We have seen limited example which AI technology touches the vast majority of the population and I do not believe there will be any AI company that can achieve a high rate of return within 5 years.

On the other hand, in 2019, AI technology is not closely related to everyone’s daily activity. We have seen AI playing chess, GO, but none of those activities are the kind we do every day. Only a few of us play chess or GO at a daily basis; none of the automobile can claim a L5 level autonomy nor can we be buying an AI powered car within our budget; none of the service job is replaced by AI; we only use Siri as a weather checking and alarm setting assistant. The true capacity of AI is yet to be discovered and 2025 is a tight deadline for real AI breakthrough.