Will a machine take your job?

With the speed of advancement of artificial intelligence (AI) and automation, many jobs became obsolete. However, not all positions can be filled by a machine as easily, certain human sciences, fast-changing fields, jobs involving strong psychological qualities or abstract thinking are not at high risk, while jobs consisting of monotone repetitive activity are susceptible.

If we focus primarily on AI, the crucial feature that machines lack is empathy. This gives them a disadvantage at jobs where person-to-person contact is one of the necessities, a nurse being one of the best examples. Hospitals, child care facilities and nursing homes all require a live human whether it is for a healthy development of a child, for consolation or support resulting from bare presence of another person when one has no living relatives. However, the aforementioned complications would become irrelevant the day humans and robots are no longer distinguishable, but this day is yet to come.

Another psychology-related ability that makes it difficult for a machine to replace a human is having managerial skills. Due to the fact that people will not simply cease to exist once artificial intelligence becomes prevalent, they will still need leading figures, assuming that they will refuse to follow orders from lifeless entities. Therefore, strong-minded individuals who are able to make fast and right decisions, who can earn trust and respect ought not to worry about their jobs for they are close to indispensable.

Decision-making is strongly affiliated with artificial intelligence creation as it triggers several questions that do not have a single correct answer. Such questions typically concern morality and hence cannot be merely resolved with logic. For example, consider the following situation involving a self-driving car: if an accident that cannot be avoided occurs, should the car try to save the driver at all costs or should pedestrians be regarded and human casualties minimalised? Similar questions have to be considered a priori and the decision has to be made by a human being to fully acknowledge the morality aspect.

Additionally, for now, machines are brainless and require a person to program them in order to function. While computers might be capable of unimaginable calculations, there is a programmer behind every variable assignment and conditional statement and a computer simply follows the instructions. This often involves immense abstract thinking skills and means that people possessing such abilities are not among those at risk of being replaced by artificial intelligence. Some examples of jobs demanding analytical thinking include biological and medical sciences, forensic research, computer programming or entrepreneurship, among others.

The last category comprises of jobs where it would be extremely convenient to have an artificial intelligence instead of a person, but where achieving this is problematic. A good example would be jobs that pose a health risk to the person involved, notably people working with high voltage, hazardous substances, contagious diseases or dangerous individuals.

On the contrary, there certainly exist jobs where employing people is wasteful in terms of both resources and time. There are plenty of reasons in favour of employing a machine instead of a

person. The leading reason would be the financial aspect, since human involvement is the most costly part of any job, while the sole investment into an AI employee includes initial price and

eventual maintenance. Furthermore, people are unpredictable, their character changes with time along with their loyalty. It is impossible to state whether certain employee will not join a rival company in the future.

Jobs at the highest risk of employing machines instead of people share certain traits, among which are repetition and monotony. Therefore, factory workers, tellers, shopkeepers or waiters would be the first to be let go. An AI can do the task more efficiently, with fewer errors, will not demand an increase in pay and will not get bored of it. Producing goods faster and with better quality will of course mean potential increase in profit so replacing workers by machines is undoubtedly beneficial for the employer, notably in production.

Human-error can unfortunately have more severe results than a decrease in profit, as millions of people are victims of road accidents annually. The damages could be reduced drastically by introducing self-driving cars into regular traffic. This suggests that drivers are likely to be replaced in the future, since it is not compulsory for an AI technology to be faultless; it suffices to be better than the best person performing the job.

To conclude, you might be replaceable by a machine if your job involves a routine task being done repeatedly, if it does not require you to improve intellectually or if it is prone to human error. On the other hand, jobs that are psychologically challenging or dangerous or jobs where abstract thinking is regularly used are relatively safe.