Round Table Discussion

Artificial intelligence
Benefits and Risks for Humanity

Organised By

MUSLIM Institute (UK Chapter)

MUSLIM Institute UK Chapter organised a Round Table Discussion "Artificial intelligence Risks and benefits for Humanity" on Aug 16, 2018 at, London. Prof. Tariq Sattar, Director of the London South Bank Innovation Centre, Prof. Phillip Burrell, London south bank university and Andrew Martin Senior Technical Analyst and Administrator shared their views on the occasion. M. Ali Iftikhar (Programme Manager, The Muslim Debate) moderated the proceedings of the discussion.

Brief summary of remarks shared by the speakers is as under:

The aim of artificial intelligence is to decrease the involvement of humans in decision making. Artificial intelligence could not replace the human mind in every circumstance. But there are so many things which humans could not do as jet fighters require computers assistance to fly it. People say that Artificial intelligence has decreased the employment but in fact each time technology occupies one type of jobs, new ones appeared to replace them. Just like after the advent of coffee machine, there is no need of human to make coffee but lot of people have been employed in coffee machines industry. Lot of research is being carried out to build robots which are like humans but they can perform certain tasks like face recognition but super intelligence could not be achieved by the machines which means that they observe and then do decisions by their own.

The use of artificial intelligence (AI) could be very impressive in the field of health care as in Africa, where in every minute a child dies due to Malaria and other fatal diseases like Zika virus.

Through this technology we can enable rural communities and people in remote areas to take care of their health. For this purpose, we can use very simple health care programs. Most of the infections are caused by water and animals or they can be congenital. These diseases spread very quickly in rural areas but these infections some time require very simple treatments like keeping the patient hydrated but people don't know these things. There is also mobile or portable facility supported by 'Intelligence decision support' which could be operated by semi-skilled operators. The rural people could also be trained to take control of their own health care. Simple artificial intelligence techniques could be used to monitor the health of communities, the facility which is available in big hospitals only. Differential diagnostic could be applied to treat a number of infections. In simple AI diagnostic, simple set of rules as Doctors use to diagnose a disease could be applied. In advance AI diagnostic system blood samples can also be analyzed for the treatment of a patient. Through AI we are also able to maintain the health records on online database. We need to train people to take the ownership of their own health through AI, by achieving this we can maintain a healthier and happier community.

Capital assets are very expensive and they essentially need safety in industry. They are expensive and hence require regular inspection. They are very large structures at distant sites. So, there is need to access them. They are also located in extremely hazardous environment. Such industries include oil and gas, nuclear, wind mills, transportation and railways which are massive and require regular inspection. Humans cannot do in-service inspection due to high temperatures and inaccessibility and robots are certainly a better option. In non-destructive testing, visualization of data by expert and highly knowledgeable inspectors can be augmented with better tools to enable quick decisions. These robots are especially useful for visual inspection and surveillance. Robots are also helpful in assessment of oil and gas tanks for leakage, corrosion and waste deposition. Climbing up robots is instrumental in assessing the integrity of structures from nuclear plants to multistory buildings. Lot of research is being carried out to build the mobile robots which can access safely critical infrastructure, ensure its integrity, reduce its inspection and maintenance cost, reduce outage and turnaround time and if possible perform non-destructive testing which will save more cost. Of course, ultimate aim is to protect divers and operators who have to operate in these dangerous environments. There are a lot of fatalities among divers who try to inspect these structures in the sea and depths.

Machine learning systems must be really transparent. They must be completely free from bias. Success of these robotic machines depends on the training which takes long time. Sometimes, wrong correlations and inferences are made by these machines whose results may be fatal. Other type of problem is bias, stereotypic unfair determinations and inconsistency. UK report on artificial intelligence identifies that implications arise from the volume of huge data, where it is generated and propensity to find new uses for it. A super organism may be created in longer term by connecting robots, computers and every modality which may be misused by some malicious person. People fear that machines are controlling aircrafts to life support systems and if they get hold of whole knowledge and encyclopedia, they may not get out of the hand of humans. It would certainly be catastrophic. Mitigation of these risks is to build AI algorithms and keep them under observation to find bias. Then, there must be research to make deep Artificial neural network more transparent. Governments might be building sensitive AI which is dealing with our health records etc. There is regulation being introduced by EU to protect use of data. So, an EU citizen may demand that its data may be deleted or forgotten. However, risks and benefits of these robotic machines are still debatable.

Interactive Session

It's about the risks of artificial intelligence that four years ago at high street whenever you go to a bank there is a person to deal with you but now-a-days there are robots and machines everywhere. If the machine said no to your transaction, then you do not have the choice to argue or explain your problem. In fact, you have to behave like a robot in response. This replacement has also created unemployment. A few years ago, where ten employees used to work in an organization, today there are only two. Others have been replaced by the robots or machines.

We feel the need to develop these systems because machines may actually learn to do things while focusing on certain complex features which humans cannot. If you build an expert system while taking the experience of lots of doctors and then encapsulates it into that expert system, the system will be able to make better decisions. These expert systems make decisions after analyzing the diversified patient data. Research shows that when doctors and these expert systems work together, they show better results. Today, we are at early stages of developing artificial intelligence, when this technology develops, then we will be able to develop real expert systems that can help humans in decision making. And building of robots having same kind of arms, eyes and brain as humans will only be useful if we are going to make them work in extreme environments where humans cannot go like searching for gold mines. Robots having same kind of mobility as well as capability as humans will be able to bring results. Machines are primarily developed to perform tasks that humans decline to perform like that of loading and transporting huge materials. When we try to attach decision making capability with these robots, it means that we want them work in remote locations.