

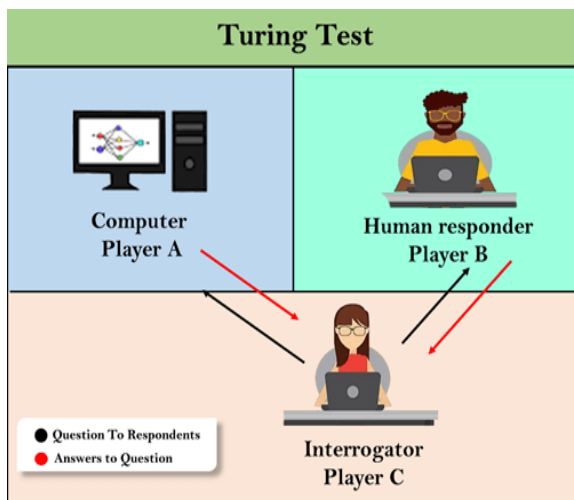
## TASC Talk - AI and the 4th Industrial Revolution. – 17/10/2019

The 4<sup>th</sup> industrial revolution is the current and developing environment in which disruptive technologies and trends such as the Internet of Things (IoT), robotics, virtual and augmented reality and artificial intelligence (AI) are changing the way we live and work.



Dr Harin Sellahewa, from Buckingham University faculty of computing explored the rise of one of these aspects, Artificial Intelligence, and the impact it is having on us and how it is and will be affecting the development of technology during the 4<sup>th</sup> Industrial Revolution.

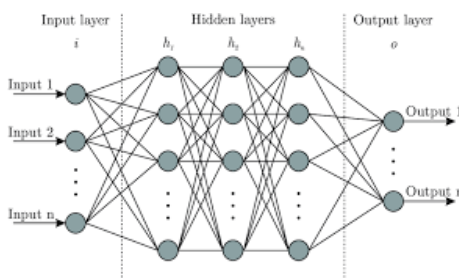
Harin began by outline the first 3 Industrial revolutions, Steam Power; the advent of Electricity and the development of the Digital Computer. These all had a fundamental impact on the world. The fourth Industrial builds on these previous revolutions leading to a world of enhanced automation with information and AI being at its core.



Alan Turing was one of the first people to think about ways in which to define Artificial Intelligence. His method involved someone holding a conversation, by text, with either a real person or a computer. If the computer manages to deceive the person into believing he/she was communicating with another person then the computer must be exhibiting a similar level of intelligence to a person.



There are a number of ways of classifying different types of AI, anywhere between three and seven classes have been suggested; Artificial Narrow Intelligence, Artificial General Intelligence and Artificial Super Intelligence, alternatively Reactive Machines AI, Limited Memory AI, Theory of Mind AI, Self-aware AI, Artificial Narrow Intelligence, Artificial General Intelligence and Artificial Superhuman Intelligence.



Harin used the first method mentioned to explain AI. Following on from this he described the way that Neural Networks are used in the development of particular tools for example in face recognition and medical image analysis and explained three different types of neural networks that exist and how “Deep Learning” is an important part of advanced systems.



Following this he took a look at a number of occupations that may be affected in the future by the increasing use of AI and showed us some video example of where this was already happening including a scary one of weaponised “mini” drones and “drone swarms”, no bigger than a cigarette packet being used to potentially eliminate adversaries. This led to an interesting discussion about the ethics of developing and using autonomous AI systems and how this may pose problems in the future.



A great talk that really got us thinking about this technology its use and possible growing dominance within our society – extremely thought provoking.

Marius Stuart 11/11/19