# Digital Awareness

*Are you ready for AI revolution?*

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AI is fast developing into a vast field of computer science with many facets, Super Intelligence, Machine Learning, Natural Language Processing (NLP), Image Recognition & Robotic Process Automation, so on and so forth. The intention of this article is not to delve into the science of AI but explain how AI is disrupting many areas of our daily lives. In its various formats, it's now creeping its way into our systems and processes, and for good reason.

Computers used to be mere calculators and required humans to input the data in the correct format for the computer to calculate the correct answer. Any error in the input would also create error in the output. If you wanted a computer to play chess better than a human, you just asked the computer to calculate millions of probabilities and used a brute-force approach to solving the problem. Modern AI algorithms tackle these problems in a different way

By using algorithm's modelled on how the neurons in the human brain are connected, called a neural network. Each neuron can adjust its bias and memory, and as such this computer program is able to adapt.

We can now train these neural networks on large data sets, and then they are able to input data with errors and output an acceptable result. This represents a huge leap forward from having humans clean and format data ready for a computer to use. The computer is now able to accept mass amounts of raw data, process this data at high speed and give meaningful results. This is the power of AI in a nutshell.

As with all new technologies it takes time to trickle down into application specific roles. Some of the areas the AI is performing better than human now include the following:

**Image recognition- enabling computers to see**
These are used in self-driving cars, medical image analysis. Computers are now becoming more accurate at medical image diagnosis than doctors.

**Natural language processing - enabling computers to hear**
This improves the human- computer interface & various new translation tools on the market are breaking down barriers.

**Chat bot's- enabling computers to talk**
It's commonly used in managing customer service & communications. It is likely that you are already talking to AI with your customer queries and this is saving companies a fortune in the process by reducing human to human calls by 60%.

**Predictive and preventative maintenance**
Enabling AI to analyse data collected from thousands of sensors in industrial processes and detect anomalies and predict component failure, thus enabling planned preventative maintenance. The addition of AI in large industrial processes has the power to save large sums of money on unplanned downtime due to failures

**Cyber Security & Security Software**
Well suited to analyse large flows of data for anomalies, network and system analysis.
It is ideal for removing lots of the mundane work from the humans, and with greater detection rates.

**Identifying Fraud & Money Laundering in Financial transactions**
AI is having a big impact on following complicated transaction flows to identify suspicious transactions. With the sheer volume of daily transactions better solutions than humans are required to process the large amounts of data.

The key ingredient that powers all AI is data, the holders of data will become industry leaders in the AI revolution. That is not to say that the major tech giants will necessarily become the leaders due to increasing regulation over personal data.

Companies that have consent to your data over the lifecycle of your interactions will gain valuable insights and create new avenues for revenue generation. One industry on the verge of some major shifts is the travel industry and its various service providers.

Areas of concern will be privacy of data, for example facial recognition, and mass surveillance capabilities. We enjoy the privacy of walking the street and perusing the shops anonymously, but soon this may be a thing of the past. As every shop will instantly identify you from a number of metrics as you enter, as such you will be bombarded with retail advice and targeted advertisements. And let us not forget the dystopian world of mass surveillance we are heeding into, for better or worse we will be unable to escape the recognition of new AI systems.

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