**RMIT** University – Introduction to Information Technology.

Assessment 2 – Team Project - Report.

A2-Group#10,

**Team Valour.**

**IT Technologies.**

**// MACHINE LEARNING.**

**Report on Machine Learning by Mathew Lawton, s3887263.**

**What is Machine Learning and what does it do?**

Machine Learning is the wonderous world within the branches of Artificial Intelligence where we answer questions using data.

Machine Learning is the process of a computer system learning how to interpret data and algorithms through experiences to optimize its approach over time. With prior development of software or an application, a computer system can be trained to interpret this information and provide an output to a desired set of requirements applied by the user.

Machine Learning is a branch of Artificial Intelligence (Or possibly, Artificial Assistance.), the most recent stages of development within Machine Learning include areas such as, Recommendation Engines on platforms like Netflix that to some extent can predict a recommendation tailored to you or a retail store that can recommend a “You might also like” product to machine learning being used by big banks and insurance companies to detect fraud. Machine Learning is also used in retail via inventory and stock control that can provide answers to inventory issues that illude human planners and let's not forget about the importance of machine learning in the ‘machine automation’, sector and more precisely, self-driving vehicles and the implication they could have on society.

To put this into perspective, let's take a look at some of the things that are being done today by developers, self starters, entrepreneurs, companies and organizations.

* **Apple** – The wizards at Apple use machine learning in many ways, sometimes as simple as to help the iPad's software distinguish between a user accidentally pressing their palm against the screen while drawing with the Apple Pencil, and an intentional press meant to provide an input. Cool right?
* **Azure** - Let me talk about a fraction of the capabilities of machine learning in this example of Scandinavian Airlines (SAS), using machine learning to accurately identify fraud with proficiency that wasn’t possible through manual methods. In the case of retroactively registering a flight for EuroBonus miles—a common source of fraud—the new system predicts fraud with 99 percent accuracy.
* **Salesforce**– Through its so-called machine learning technology, “Einstein”, Salesforce is able to analyse every aspect of a customer's relationship within a company. (Information via <https://em360tech.com/tech-news/top-ten/top-10-companies-using-machine-learning/> )

With this kind of information, I bet you are wondering about some of the possibilities of what can be done with machine learning, right? Well, not only will we be able to find out the answer to timeless questions such as, “who would win in a fight: A duck sized horse or a 100 horse sized ducks”, but we will also be able to support networks within our society such as, Healthcare where we are able to predict patient health and/or symptoms of a disease/virus, and AR/VR Development where we are capable of doing who knows what? I for one need further study and research into that wonderous aspect of IT!

From once far-fetched sci fi concepts like mind-transferable technology in Dune(Auther, Frank Herbert, 1865.) and the inception and click bait surrounding Elon Musk's, [‘Neuralink’](https://neuralink.com/), that is gaining significant scientific research and support to real life strategies such as ‘The Link’, an application that connect to thousands of neurons in the brain to support rehabilitation with people who have suffered spinal cord injury, and don’t forget about the scary realisation of how things like Deep Fakes and the data obtained to initiate machine learning can have a great impact on society and furthermore, how can we differentiate ideas and concepts that may be generated by bias opinion/s?

What if we take a step back and consider the likely impact of machine learning and which people may be affected and, is there a select group of people that organisations using machine learning may target specifically for any reasons?

Let's consider that, for example, if over the last 3-5 years, the precision of facial recognition technology has increased drastically, bringing scientists from the 26 percent error rate back in 2011 to about 3 percent in 2020.   
In the future, the quality of facial recognition will definitely improve, making computers powerful substitutes for human eyes.

The improved quality of computer vision will expand the reach of machine learning applications in healthcare, security, art, and retail.

Now I know you're wondering, “but how can machine learning in healthcare, art or retail affect me and my family?

Considering the rapid development of machine learning, it’s no wonder that companies all over the world bet on these technologies. Now that dozens of corporations are becoming leaders in Ai and machine learning research, I believe it is a basic right for everyone to have an educational platform to aid in supporting and understanding the implications of machine learning on their life, I believe that after further research into this field that dis-information is a bump in the road for machine learning.

I believe that the likely impact of machine learning is based on the fundamentals of assisted intelligence and via the support of computer systems and computer networks, we will be able to assist in the management of predicting possible outcomes in many areas such as healthcare, resources, infrastructure and commerce which will aid millions of individuals across the globe and their succession in projects, life and personal health and career development.

Another likely impact of machine learning is that as a group of peers at RMIT University, we will be able to implement ideas and concepts within the AI and machine learning capabilities that will help us to succeed in our team project, learning style and understanding of this wonderous world within the branches of Artificial Intelligence.

Ok, I’ll admit that I don’t know enough about the finer mechanics of machine learning, but I can’t help to wonder - like a 13-year-old who just discovered Stargate, SG1 - the endless new roles and possibilities that are being created, as the speed of implementation and new business systems exponentially increase, and IT operations are becoming more complex and efficient in their process.

Let’s put ego’s aside for a moment while I say something that was inspired by my RMIT University Lecturer, Anthony Clapp, this is not a word for word quote, it was just my interpretation from a webinar that, as humans, our brains can’t keep up with the volume, veracity, and variety of Big Data which I believe is the livelihood of machine learning. Machines want to eat, machines are hungry for data, machines want Big McData.

Machine learning can slither in silently and fill in the gaps between humans, Team Valour and Big Data, providing an assisted intelligence and speed for real-time decision making and troubleshooting that can be facilitated by an individual or a group of individuals.

Will this create, replace or make redundant any current jobs or technologies, who for certain can not only suggest this, but confirm this? And what kind of changes in society will aid in the facilitation and acceptance of machine learning, are these questions that we should be asking ourselves or are these topics we should be trying to discuss with the masses as educated individuals?

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