FIT1055 Assignment 1

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Topic: **The potential for AI techniques to be used for negative or positive social**

**Purposes**

**References**

The potential for AI techniques to be used for negative or positive social

Purposes Website links

**Machine Learning Websites**

(How machine learning is changing the world. Mostly good things and 1 bad thing)

<https://www.datasciencecentral.com/how-machine-learning-is-changing-the-world/>

(The effects of machine learning)

<https://www.protiviti.com/US-en/insights/effects-machine-learning>

(15 ways machine will impact daily life)

<https://elitedatascience.com/machine-learning-impact>

(Dark side of machine learning)

<https://techcrunch.com/2016/10/26/the-darker-side-of-machine-learning/>

(Is AI good for society, the ugly the bad)

<https://www.functionize.com/blog/ai-in-society-the-good-bad-and-ugly>

(Exciting potential for machine learning)

<https://www.analyticsvidhya.com/blog/2021/02/the-exciting-future-potential-of-machine-learning/>

(Journal)

<https://academic.oup.com/nsr/article/5/1/54/3789514>

**NLP (Natural Language Processing)**

(7 benefits of NLP)

<https://monkeylearn.com/blog/nlp-benefits/>

**Automation and Robotics**

(What impact will automation have on our future society? Here are four possible scenarios)

<https://www.weforum.org/agenda/2018/02/what-impact-will-automation-have-on-society-four-scenarios/>

(5 ways that automation can benefit businesses and society)

<https://www.forbes.com/sites/forbesbusinessdevelopmentcouncil/2021/10/11/five-ways-automation-can-help-businesses-and-society/?sh=180b8d293bbe>

(Pro and con of automation)

<https://www.britannica.com/technology/automation/Advantages-and-disadvantages-of-automation>

(Automation Benefits and costs)

<https://www.economicshelp.org/blog/25163/economics/automation/>

**Machine Vision**

(Computer vison can help build a safer secure society)

<https://medium.com/neuromation-blog/computer-vision-can-help-us-build-a-safer-securer-society-1135018ba76>

(How 'computer vision' could change healthcare, retail and more)

<https://www.weforum.org/agenda/2022/03/how-computer-vision-change-healthcare/>

**Website for the top 4 techiniques for Artificial intelegence**

<https://www.educba.com/artificial-intelligence-techniques/>

<https://medium.com/unpackai/overview-of-ai-techniques-d7aeefbc4e20>

Sources Main Arguments

**Machine Learning**

Positive Implications

* It can help social purposes by education, smart home security
* Healthcare (<https://www.datasciencecentral.com/how-machine-learning-is-changing-the-world/>)
* Medical research (<https://www.protiviti.com/US-en/insights/effects-machine-learning>)

Negative implications

* Data privacy issue (<https://www.datasciencecentral.com/how-machine-learning-is-changing-the-world/>)

Topic: **The potential for AI techniques to be used for negative or positive social**

**Purposes**

Introduction to the topic (250 Words)

In our everyday lives, technology revolves around all of us. From the complex programs needed to run the transportation in our country, to the image recognition needed to access our own phones. These different technologies are run by different AI techniques which is defined as procedures that make computers show human like intelligent (Vanherle, 2021). Since AI techniques is still being developed and implemented into many systems of our daily life, there are still many potentials that AI techniques could be used for good social purposes which can benefit society, however there is no perfect thing in this world. Therefore, AI techniques could be indirectly causing negative social purposes when trying to achieve a goal. The top 4 AI techniques used commonly today as stated by Pedamkar (2021) are Machine Learning, Natural Language Processing (NLP), Automation and Robotics and lastly Machine Vision. In this report, I will be discussing and about the different potentials of AI techniques and how they could benefit the society as a good social purpose while also discussing the negative social purposes that could come from when achieving a good social purpose.

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Discussion of key arguments and perspectives (~500 words)

Criteria needed to be done:

**Conduct analysis of the sources to examine perspectives of the issue being investigated (25%)**

* Conducts a detailed and accurate analysis of a range of perspectives relevant to the issue being investigated

**Explains key arguments and perspectives (25%)**

* Uses detailed evidence and examples to compare and contrast a range of differing perspectives, and analyses strengths and weaknesses of each in detail

Among the 4 AI techniques I will be focusing on Automation and Robotics for the first argument. The first argument that I will be discussing is the introduction of Automation in a factory. Automation in a factory can be advantageous and beneficial but only for a certain perspective of people. For example, having automation in a factory can increase productivity, less employee costs, higher volume production, increased safety for factory workers and reduction in production time (Blue, 2013). Those advantages can be seen as a good potential since they help reduce the risks for workers and increases production rates too. However, in the process of automating the factory and gaining the benefits, there will be an increase in unemployment due to Automation replacing workers. The workers that have been replaced by automation will often face worker displacement where workers who have been replaced by automation will likely face emotional stress from the loss of their jobs and stress from looking for another job (Advantages and disadvantages of automation, n.d.).

If we look at this in a perspective view, we can see that there will be some winners and losers. If we look from the perspective of the owner of the factory and the software developer who designed the machines, they will gain the most benefit from automation since they get more volume production and more productivity which in a long run will surpass the initial cost of automation. Now if we look in the perspective of the worker, we can see that due to automation in the factory, the worker will most likely be unemployed and will face worker displacement because of that. So, although automation in a factory can create a positive social purpose for the people who get the most additional benefits from automation, there is also negative social purpose from the perspective view of the workers who have been replaced by automation.

This discussion will be on the AI technique Machine Learning will be discussing about machine learning in healthcare. Machine learning in healthcare can be very beneficial for patients and doctors. For example, here are some strengths to machine learning in healthcare. Machine learning algorithms can forecast a sudden outbreak. Using the vast amounts of data collected by the Machine Learning it can predict what might happen in the future (Oza, 2021). Personalized Medication. One major positive point of using machine learning in healthcare is the ability to tailor medicine through predictive analytics (Oza, 2021). However, just as there are strengths there are weaknesses too. Here are some weaknesses to machine learning in healthcare. The data given to be processed by machine learning contains fallible data from humans. How machine learning works is through processing vast amounts of data and analysing the data. However, the data was given from doctors who have different judgments according to which patients they are facing which could cause the machine learning algorithm to act the same towards patients like the doctor (Nadis, 2022). Machine learning follows by the rules. This is considered as a negative point as humans don’t always follow the rules when treating a patient (Nadis, 2022). For example, as stated by Nadis (2022) machine learning algorithms are very good at mastering games which have certain “win conditions” in this case it would be “healthy” but it is not always the correct way.

If we look at this in the perspective view. In the doctor perspective, similar to how workers fear that robots may replace their jobs, doctors also face the same worry therefore, they may not be very happy with the introduction of machine learning (Srikanth, 2020). In the patient perspective, there will be nothing that can replace a human interaction between patient and doctor. Therefore, there will always be a need for doctors.

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A statement of your own position on the issues presented in your sources,

including your reasoning, evidence and justifications. (~500 words)

For 4. c) you should attempt to come up with a balanced perspective rather than simply supporting a ‘negative’ or ‘positive’ point of view on the topic only.

Draws statement of own position to the issues presented and provides rationale (40%)

* Draws appropriate and detailed conclusions to the research investigation and provides a balanced statement with a comprehensive and logical rationale

**References**

Pedamkar, P. (2021). Artificial Intelligence Techniques. Retrieved from

https://www.educba.com/artificial-intelligence-techniques/

Vanherle, K. (2021, March 8). Overview of AI techniques [Web blog post]. Retrieved from

https://medium.com/unpackai/overview-of-ai-techniques-d7aeefbc4e20

Advantages and disadvantages of automation. (n.d.). Retrieved from

https://www.britannica.com/technology/automation/Advantages-and-disadvantages-of-automation

Blue, B. (2013). Advantages and Disadvantages of Automation in Manufacturing. Retrieved

from https://www.vista-industrial.com/blog/advantages-and-disadvantages-of-automation-in-manufacturing/

Davenport, T., & Kalakota, R. (2019). The potential for artificial intelligence in healthcare.

Future healthcare journal, 6(2), 94–98. https://doi.org/10.7861/futurehosp.6-2-94

Srikanth. (2020). 15 Benefits of Machine Learning in Health Care. Retrieved from

https://www.techiexpert.com/benefits-of-machine-learning-in-health-care/

Oza, H. (2021). Dynamic Advantages Of Machine Learning in The Healthcare Industry.

Retrieved from https://www.hdatasystems.com/blog/advantages-of-machine-learning-in-the-healthcare-industry

Nadis, S. (2022). The downside of machine learning in health care. Retrieved from

https://news.mit.edu/2022/marzyeh-ghassemi-explores-downside-machine-learning-health-care-0201