COMP90087: The Ethics of Artificial Intelligence

Assignment 2

Case study selected: Optimising COVID Vaccination Rollouts with Deep Learning

(1550 words)

Introduction

In the past two years, COVID has swept the world, bringing great harm to the body and spirit of people all over the world. However, with the efforts of scientists, the development of COVID vaccine has brought a great turn for the anti COVID work. Vaccination give people hope to defeat COVID and start their social life again. Nonetheless, vaccination is not smooth sailing. There are many difficulties in the logistics of vaccination, such as distribution, time arrangement, no waste of vaccine and so on. Therefore, it is difficult to maximize the effect of vaccination. But, if there is a technology that can maximize vaccination benefits through highly sensitive personal data such as hospital records and estimated lifespan/quality of life provided by insurance companies, should this technology be promoted?

To a certain extent, as Deloitte reports, "*it comes down to an ethical question that has been debated since the times of Socrates and Plato: at what point are the rights of the individual overridden by the needs of public safety and economic wellbeing*?"(COVID-19: Privacy and Security in the next Normal, 2020). From the perspective of ethical thinking, **this technology should be defended to maximize vaccination outcomes**, even if it has the potential to infringe personal privacy. This paper will defend this perspective in terms of **privacy, safety, fairness** and h**uman rights**.

Privacy

According to the new research by Deloitte, "*While it is tempting to prioritize health above all else during a pandemic, data privacy laws still need*

to be followed." (COVID-19: Privacy and Security in the next Normal, 2020). For this technology, the data privacy problem is undoubtedly the most concerned. The people's highly sensitive data will be used by X company, in order to optimize the vaccination efficiency, and potential privacy violations might occur in this process.

But the potential privacy violation **is not enough** to stop the technology. Since this privacy violation problem **can be controlled**, that is to say, its negative impact is controllable. The government could review the data call of company X and strictly control the use of those highly sensitive data, and the high sensitive data could be encrypted to prevent potential data leakage in the transmission process, so that to keep privacy violations to a minimum level.

Besides, in the context of the outbreak of COVID, **it is not a case** to call user data to help people to better fight against the virus. As early as November 2020, the World Health Organization released the joint statement on data protection and privacy in the cowid-19 response. In this statement, the World Health Organization mentioned that, "*Mounting evidence demonstrates that the collection, use, sharing and further processing of data can help limit the spread of the virus and aid in accelerating the recovery"* (Joint Statement on Data Protection and Privacy in the COVID-19 Response, 2020). In fact, similar data are frequently used in many countries with excellent anti virus achievements. According to Claypool (2020), privacy violations are occurring in countries with excellent response to the epidemic, such as China, South Korea and Israel. Even in the United States, "*According to the Wall Street Journal, data mining company Palantir is working with the Centers for disease control to model the viral spread*" (Claypoole, 2020). People should take a more candid attitude towards data uses, rather than distorting it and exaggerating its negative impact.

Therefore, people should not regard the highly sensitive data calls as a scourge, but should look at this issue more objectively. At the same time, the government and enterprises should also maintain the data security during the

application of data, and as WHO said in its statement, "*Be transparent in order to build trust in the deployment of current and future efforts like*" to ensure the better development of the follow-up work.

Safety

To improve the efficiency of vaccination, the most intuitive impact is to ensure people's safety. According to National Center for Immunization and Respiratory Diseases, COVID-19 vaccination is a "*safer way to help build protection"*, and it is "*safe and effective tool to help stop the pandemic".*

Protecting safety is an important point to defend the technology. In the context of COVID, in other words, it is a kind of protection of the **right to life**. According to the European Convention on human rights by the Council of Europe, right to life "*is one of the most important of the Convention since without the right to life it is impossible to enjoy the other rights"*. More extensive vaccination can prevent more people from being infected by COVID, thus directly protecting the healthy safety and right to life of more **individuals**.

At the same time, more vaccination protects not only the life safety of individuals. There are also people around, and even the security of the whole **society**. As an epidemic, personal infection by COVID will also affect the safety of people around, it "*could spread the disease to friends, family, and others around you"*. From the micro point of view, personal infection makes people around have the risk of virus infection. From the macro point of view, it also endangers the safety and stability of society. Therefore, it is necessary to improve the efficiency of vaccination to protect the safety of the individuals and society.

Fairness

From another point of view, optimizing the rollouts of vaccine through deep learning also helps to promote **society fairness**. After all, with reducing the human intervention, AI can make a relatively fairer strategy (Townson, 2020) to distribute the vaccine to the people in need.

Under the frame of **ethics of virtue**, as a virtue, fairness is *"based on the*

rights and obligations that we have naturally assumed, acquired or embraced voluntarily"(Perspectives: The Virtue of Fairness, 2019). The vaccination rollouts through deep learning instead of make the plan by somebody, the human intervention is reduced in the process, so that to ensure the efficiency of vaccination, and vaccinate the people who need it most, to better achieve social fairness.

At the same time, it also accords with the thought of "*consider impacts on the most vulnerable*" in **ethics of care**. Deep learning will optimize the rollouts of vaccination, so that those most vulnerable people - who need the vaccination most - can get vaccinated earlier, so as to give them more care, protect their health, and prevent them from being affected by the COVID, to ensure social fairness.

Human rights

After talking about the right to privacy, the right to life and so on, the final topic is back to the issue of human rights. As the Council of Europe's Secretary General mentioned in the speeches to sixth annual Delphi Economic Forum, COVID-19 challenges human rights worldwide. COVID challenges human rights in all aspects, not just the privacy and the right to life as mentioned before. The family ban infringes people's freedom, the social lockdown deprives people of their social life, etc. These issues should also be taken into consideration. "*The right to live, the right to privacy and the right to freedom should not be seen separately instead must be seen in the collective manner."* (My Right to Privacy Cannot Dominate the Right to Life of Another, 2020). Therefore, it is necessary to use a comprehensive perspective to weigh the impact of technology.

In fact, the positive impact of vaccination is far **greater than** the negative effects of using sensitive data. Since people should not regard the privacy problems brought by technology as independent, and should treat them with other rights like the right to life and so on. According to **utilitarianism**, fair/just equals to maximizes net well-being(lec, mod 4 p.14). The net well-being of

maximize the effect of vaccination in a wide range of society is far beyond the protection of personal privacy. This not only protects the health safety of the individual, but also maintains the safety of the society, so as to maintain the stability of the society. Meanwhile, it also means the restart of society, which means that people can regain their freedom, go out of their homes and open up their social life; This means that when the enterprise returns to work, the workers can get paid again to support their families; This also means that the society can return to the original track and continue to develop.

Optimizing the efficiency of vaccination does not only mean improving the efficiency of anti COVID, it also means the **return of human rights** that challenged by COVID-19. To promote vaccination, the beneficiaries are far more than individuals. This is for the well-being of the whole society, and should not be terminated by paying attention to the impact of the use of sensitive data. It means more.

Conclusion

In an interview with the new Yorker in April 2020, the European Commission *Margrethe Vestager* asserted that we have reached a point where we may be able to **trust our technologies** that we use in our daily lives.(Travieso, 2020). COVID has done enough harm to the society. For the sake of personal safety and freedom, for the sake of social stability and development, **optimizing vaccination efficiency is a must, even if it may have some potential risks.**

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