Final Reflection

# Professional Ethics

Detailed information regarding the Codes of Ethics and Professional Conduct was supplied at the start of this module. The Association of Computing Machinery (ACM Ethics, N.D.) provided several case studies that would be discussed. Introduced the British Computer Society's (BCS) Code of Conduct, which outlines the qualities of IT professionals, and demonstrates the seriousness with which the development of a morally upright and responsible computer industry is taken.

We should constantly keep ethics and conduct in mind as IT professionals. According to the regulations and requirements for daily jobs. Despite appearing to be common sense, the examples below describe the effects of wrongdoing and its consequences in real-life.

* The Q Industries case demonstrated how intricate the truth is. On the one side, they may strive to make the public aware of the ethical dilemma. On the other hand, it is possible that their behaviour is against the policy of the company.
* The Dark UX Patterns case may have also broken Federal Trade Commission (FTC) rules. Even though our team frequently modifies a nice user interface (UI) for a better user experience (UX). It might overlook the payment part that is necessary to obtain the customer's consent and state clearly any information. I would review it with my team member to provide our users access to a fair-trade setting.
* In the Malware Disruption case, I have gained knowledge about user agreements. As a service provider, it must control how customers use their service and work to prevent misuse.
* The white hat hackers and define "good" were also covered in the essay "Ethics vs Morality" (John, 2018). That reflects my daily work since there are grey areas that could be difficult to categorise as right or wrong.
* The situation of the American Army explains doing what is 'legal' and 'right' are not certainly the same (Paul, 2018). This kind of reflection on decision-making is beneficial when deciding between moral and legal considerations.

# Research Ethics

The conflict of interest between the sponsor and the researcher was shown in the case study of Abi. Even if it seems like there are certain ways to create win-win circumstances, doing so might have serious ethical issues and a deep influence on the public. Other negative effects of research misconduct, include publication bias and result reporting bias, which have cost billions of dollars in the past (Chan et al., 2014). Regardless of whether there is an intention, we should exercise caution and prevent bias when working on research that will be published.

In addition, I discovered a database for retractions that stored records of retractions articles that made by non-profit organisations (Retraction Database, 2023). Our study must take care not to violate any of these factors that might cause it to be retracted.

# Research Methods Process

‘Implementing Cyber Security tools and/or techniques in detecting medical misinformation on a social media platform of Twitter’ is the topic I picked for this module. Most of the medical material on social media in recent years has been about information on COVID-19 (Sotto & Viviani, 2022). The fight against disinformation is crucial given the quick and widespread diffusion of information on social media platforms like Twitter, Facebook, and YouTube.

Lara Hammock's (2018) Step-by-Step Guide assists in starting our examination and subsequent module with an organised procedure. Continue planning and investigation in the related area and discover a potential solution to include in the research proposal. Since secondary research must be used instead of primary research, data is taken from primary research that has already been published or published case studies. In this situation, finding the right information could be challenging and it could also help me to become a better researcher.

During the investigation, I discovered that several studies have suggested utilising machine learning algorithms to identify false news predictions (Marriboyina et al, 2021). Despite it is not a cyber security tool, it is a reliable method to use as a stage in the process of identifying medical misinformation. To determine the level of pleasure in various scenarios, it is suggested to choose the appropriate questions and interviewee. A balanced mix of both closed and open-ended questions should be included in the survey. I developed a survey to find out how satisfied people were with my project's work in the past, this study gave me ideas for how to garner more replies and reliable data going forward.

The Birdwatch programme allows Twitter users to rate and make corrections to tweets. Twitter aims to mould them in an open environment (Twitter, 2021), and looks to be delegating additional power over policing incorrect user data (Taylor, 2022). Finding the gap and limitation between artificial intelligence, machine learning, and the Birdwatch could be an interesting area to offer a solution that should match Twitter's goals and values.

In the research proposal outline, I begin to concentrate on the cybersecurity tool blockchain for identifying medical misinformation. There are not many studies on this topic, and most of it is quite recent, so it should be worth investigating and developing. The research shows similar concerns in blockchains like scalability, energy consumption and privacy. However, I discovered that there were few publicly available research data that were pertinent to my theory. Therefore, I was unable to apply statistical methods for a thorough examination. The data collection of my proposed methodology must produce after the simulation is ready. The lesson learned is that the idea is too novel and there is not enough evidence to back it, I must prepare their own data in the earlier state.

# Statistical Analysis Skills

This exercise trained my statistical analysis abilities. I utilised MS Excel to compute the numbers on summary measures and inference using formulae and tools. Understanding how to evaluate and analyse the data by outlining the results is also crucial. A statistical technique known as hypothesis testing is used to examine the survey findings and create results that are relevant to our research.

The statistical analysis skills exercise includes charts and analysis. It is a graphical data visualisation representation that offers instant understanding and data comparison. I would utilise charts and tables since they are recommended for the research proposal presentation to build stronger support for my methodology.

# References:

ACM Ethics. (N.D.) Case: Automated Active Response Weaponry. *Code of Ethics*. Available from: https://ethics.acm.org/code-of-ethics/using-the-code/case-automated-active-response-weaponry/ [Accessed 11 Nov 2022].

BCS. (June 8, 2022) Code of Conduct for BCS Members. *BCS, The Chartered Institute for IT*. Available from: https://www.bcs.org/media/2211/bcs-code-of-conduct.pdf [Accessed 11 Nov 2022].

Chan et al. (2014). Increasing value and reducing waste: addressing inaccessible research. *ScienceDirect*. DOI: https://doi.org/10.1016/S0140-6736(13)62296-5

FTC. (September 15, 2022) FTC Report Shows Rise in Sophisticated Dark Patterns Designed to Trick and Trap Consumers. Press Releases. Available from: https://www.ftc.gov/news-events/news/press-releases/2022/09/ftc-report-shows-rise-sophisticated-dark-patterns-designed-trick-trap-consumers [Accessed 20 Nov 2022].

John, M. (May 29, 2018) Ethics vs morality. *Articles, opinion and research*. Available from: https://www.bcs.org/articles-opinion-and-research/ethics-vs-morality/ [Accessed 11 Nov 2022].

Lara Hammock (June 18, 2018) My Step by Step Guide to Writing a Research Paper. *Marble Jar Channel*. Available from: https://www.youtube.com/watch?v=-JcgRyJUfZM [Accessed 20 Nov 2022].

Marriboyina, S., Gogulamudi, V., Kumar, K., Aruna, B. & Yadav, A. (2021). Prediction of Fake Tweets Using Machine Learning Algorithms. *Recent Trends in Intensive Computing* DOI: 10.3233/APC210195.

Paul, S. (2018) *Army of None: Autonomous Weapons and the Future of War*. 1st ed. W. W. Norton & Company.

Retraction Database. (2023) Retraction Search. *The Retraction Watch Database*. Available from: http://retractiondatabase.org/RetractionSearch.aspx [Accessed 30 January 2023].

Sotto, S. & Viviani, M. (2022) Health Misinformation Detection in the Social Web: An Overview and a Data Science Approach. *Int J Environ Res Public Health* 19(4):2173. DOI: 10.3390/ijerph19042173

Taylor, L. (November 29, 2022) Twitter ends its ban on covid misinformation. *Technology*. Available from: https://www.washingtonpost.com/technology/2022/11/29/twitter-covid-misinformation-policy/ [Accessed 13 January 2023].

Twitter. (January 25, 2021) Introducing Birdwatch, a community-based approach to misinformation. *Product*. Available from: https://blog.twitter.com/en\_us/topics/product/2021/introducing-birdwatch-a-community-based-approach-to-misinformation [Accessed 13 January 2023].