Module Reflection

Course: MSc Computer Science

Module: Research Methods and Professional Practice

Assignment: e-Portfolio

Date: Sunday 29th May 2022

Student ID: 126853

E-Portfolio Links:

E-Portfolio (GitHub Pages): https://eportfolio.kieronholmes.me/modules/research-methods-professional-practice

GitHub Branch: https://github.com/KieronHolmes/UoEoPortfolio/tree/rmpp-build

Reflection:

Throughout this module, we have been introduced to the overall concepts behind research methods and design, identifying the specific elements which are linked to the research we will be undertaking as part of the dissertation module. We touched upon often neglected areas of research, which are still incredibly important, such as research ethics, identifying both acceptable and non-acceptable behaviour throughout the industry (Resnik, 2020). As I entered this course through the work experience pathway, as opposed to the academic route, I found this module to be as an incredibly beneficial refresher for the expectations and techniques which will need to be focused on when conducting research in a professional environment.

Within the Unit 7 assignment of this module, we were required to choose a topic from a list presented earlier in the module, then conduct an in-depth literature review based upon our findings of the topic. In order to choose a suitable topic from the list, I had used prior knowledge combined with some preliminary research in order to identify a viable topic, the Implementation of Deep Learning tools within Image recognition (Holmes, 2022). My assignment focused in particular on the uses within two specific case studies, Google's Captcha (Turing Test for identifying non-human users) and the Tesla 'Autopilot' (Holmes, 2022), both of which have a significant

amount of research available and are accompanied by their own unique ethical issues.

I personally found the Unit 10 assignment to be far more beneficial to my situation, as it allowed me to focus my efforts on a topic I was far more passionate about. Although I have a working understanding of Deep Learning techniques, my professional focus is on Software Development and the associated security considerations, which were demonstrated within Unit 10. This means that I was able to include information that I have learnt within industry, combined with the academic material that has been produced and published by security researchers worldwide. Despite my preference, I believe the Unit 7 assignment was still both necessary and beneficial, as it demonstrates how we could apply the theoretical concepts of this module in an environment where we are less familiar with an overall topic, which may be encountered when producing collaborative research.

One topic within this module that I found to be very useful was the application of research ethics within a research environment. As my proposed capstone project involves the statistical analysis of individuals that may have affected by stalking or theft due to discrete tracking devices which may have been placed on their person or possessions, ethics will need to be a key focus throughout my upcoming work. During this module, I located a University of Essex (n.d.) page that highlights the need to undertake a comprehensive research risk assessment, which should cover all of the risks and mitigations that should be undertaken during the research gathering phases of a project. I was previously unaware of the significance of

producing such documents until this module, but it will be something that I will carry forward to any future pieces of research work I undertake.

Although there was a lot of extremely beneficial items within this module, there were also aspects that I found to be less beneficial, such as the Data Analysis sections (Covered in Units 8 to 10). The worksheet tasks contained basic data analysis tasks which required us to generate basic graphs within Excel or LibreOffice, but, didn't cover any of the key aspects associated with their usage that I believe will be required in any research work, such as the dissertation module. Some aspects which I think may have been useful to include are graph design standardisation (As all of the Excel default graphs look slightly different), as well as the types of graphs and where their usage may be more effective from an academic standpoint. Although, I appreciate that it is difficult to cover the ideal volume of content within such a short number of units, and may be best suited to independent research and preferences as opposed to being taught on a global scale.

Based on my findings within this particular module, if I were to undertake similar work in future I would undertake some preliminary research, fully identifying the sources that would be used within my assignment, as well as a rough design of the overall structure. When producing the Unit 7 and 10 assignments, my research, for the most part, was conducted during the writing of the assignment deliverables themselves, as opposed to before. If I had conducted further research prior to beginning the assignment, I believe that I would have been able to make my assignment deliverables far more detailed and concise, whilst improving my overall

chance of achieving a higher grade. However, due to time constraints due to working full-time alongside this course, conducting comprehensive research and planning prior to working on an assignment may not always be possible.

In general, I believe that the Research Methods and Professional Practice module was an incredibly important part of the MSc Computer Science course. It has helped me gain an understanding of research-specific terminology, and has helped me understand techniques and considerations that should be made before undertaking a piece of research work. When I shortly reach the dissertation module, I hope that I can take forward the knowledge learnt within this module to improve the overall quality of research and artefacts that are produced as part of that module.

References:

Holmes, K. (2022) 'Literature Review'. Paper submitted to the University of Essex Online for Research Methods and Professional Practice.

Resnik, D. (2020) What is Ethics in Research & Why Is It Important?. Available from: https://www.niehs.nih.gov/research/resources/bioethics/whatis/index.cfm [Accessed 29th May 2022].

University of Essex. (n.d.) Research Risk Assessment. Available from: https://www.essex.ac.uk/student/postgraduate-research/research-risk-assessment [Accessed 29th May 2022].