**COMP4003 / COMP4031 / COMP4026 Project Plan**

**Student:** Joel Pointon

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**Course:** MSc Data Science

1. **Project title.**

Have You Tried Turning It Off and On Again? Pressing reset with a novel framework for the use of deep learning chatbots in education.

1. **Statement of the research problem.**

Inspired by ChatGPT and the improvement of transformer technology, this project aims to create a “framework/model” that can automate the process of answering frequently asked questions (FAQs) for the Introduction to Image Processing (COMP 2032) module. Generative chatbots such as ChatGPT can produce errors \citep{marcus2018, Bender21, Eva}, particularly when seeking to summarise and abstract documents \citep{Durmus\_2020}, and can perpetuate any bias in the training data \citep{geva2019, brown2020}. This means that students could be learning inaccurate or irrelevant information. Consequently, this paper aims to propose an efficient model for academics to create a domain-specific knowledgeable Q&A chatbot where academics can have high confidence in the accuracy of any answers. I will seek to provide a platform that can be a supplement to teaching and learning,” rather than replace current methods entirely (Nee et al., 2023).

Describe what the project is about and the particular the problem it seeks to address / solve. Outline why this is an interesting or important research problem that needs to be addressed / solved.

**3. Related work.** Briefly discuss whether other people have done work on the same or similar problems in the past. Outline how your work builds on prior research and attempts to address / solve the problem. Describe how your approach is different and novel.

**4. Methodology.** Outline how you are going to address / solve the research problem and evaluate your results. Describe the research techniques you will use (e.g., user studies, technology development, algorithm design, system implementation, lab experiments, etc.), and why these techniques are well suited to addressing / solving the problem.

**5. Programme of work.** Divide your project up into a series of discrete but interrelated components or ‘work packages’. For each major component give it a name and number, describe the activity involved in accomplishing it, and end each activity description with a milestone or a goal to be achieved for that work package so that you will know how to measure when you have successfully completed that stage of the work programme. For example,

**Work Package 2 (WP2) – Literature Review**. Conduct secondary research into persuasive technologies for behaviour change using relevant sources. Make notes on key papers, looking in particular for gaps in the research and write up. Milestone 1 (M1) – Literature review chapter of dissertation completed.

**Work Package 7 (WP7) – ‘User Testing’**. Define relevant test subjects, formulate plan for evaluatory testing, recruit subjects, pilot methodology, collect data, analyse data, report results. Milestone 7 (M7) – User evaluation test results chapter of thesis written.

**6. Time plan.** Map your milestones to a time plan that covers the PGT project period (see the PGT projects pages on Moodle); don’t forget to allocate time for writing up your dissertation in the plan. The plan may be in the form of a Gantt chart or any other suitable representation that clearly maps milestones to specific deadlines. Insert the time plan as image (no word count).

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**Assessment criteria**

Is there a clear statement of what the project is about?

Is there an explanation of why this problem needs to be addressed / solved?

Is the novelty of the proposed research substantiated with reference to related work?

Is there a clear statement of how the problem is going to be addressed / solved?

Are the proposed methods for addressing / solving the problem appropriate?

Is there a clear statement of how the results are going to be evaluated?

Is the proposed evaluation appropriate?

Is there a breakdown of the research into work packages?

Is this breakdown appropriate?

Is there a time plan?

Is the time plan realistic?

*Affirmative answers to each of these questions will result in a first class mark.* *Markers should briefly describe how the project plan diverges from these desired outcomes to justify their mark.*