

## **CA699I: Topics of AI 2022-2023 Continuous Assessment**

**Dublin City University  
School of Computing**

### **Introductory Issues**

- Submission Deadline: Friday 9<sup>th</sup> December 2022 at 23:59 AoE. Please note that a penalty will be applied for late submission without good reason.
- Weighting: 50% of the overall module marks go for this.
- Assignment is submitted via the Loop page ... **only** via the Loop page
- For this assignment you work solo, not in pairs

### **Aim of the Assignment**

The aim of this assignment is to provide you with an opportunity to examine some of the topics covered in the module and to get you thinking about the topics, creatively. If you want a sounding board to bounce your suggestions off, then email alan.smeaton@dcu.ie giving the title and a couple of sentences of your topic and I will give you feedback; if you feel confident enough that you'll get the topic spot on yourself then OK, take the risk, but it is no harm to check, and you take the risk that your actual submission may be off-topic. People who check with Alan normally don't go off the rails and they end up choosing a good topic.

### **The Assignment**

For the assignment you are required to perform an analysis (market, or competitors, or needs, etc.) and to develop a specification for a proposed new application (on a smartphone, tablet, desktop, laptop, or an online service, etc.) that uses AI in some way to manage, create, use, share or otherwise interact with information. Yep, it is as broad as that. In addition you need to discuss either (a) how this new application could form the basis for a successful start-up company or (b) what are the system or architectural design implications and requirements of your proposal, in other words what is needed to make it operate.

The application that is the subject of this report should be a novel application bringing together material from any topics studied in the module, or from outside the scope of the module, or even outside the course. However, it should be possible for somebody to build and evaluate a prototype system based on your submission so it has to be realistic, so no stairways to heaven please.

There are lots of possibilities for new AI-based applications taking advantage of the technologies covered in the module. Some ideas are:

- ☐ Personalised video summarisation of user videos of an event like a concert
- ☐ Capturing user emotion and engagement at a live event held over zoom, and feeding that crowd reaction back to the performers
- ☐ Netflix, YouTube, Vimeo and others have a recommender system for me but I don't have anything that recommends across these (and other) platforms, so this would be a recommender system that recommends

entertainment across platforms, with time limit bounds (I'm going to bed at 10pm so don't recommend a movie if its 9pm).

□ ... something else.

Each year this list of possible ideas changes as the technology and as people change too. This is the fun part of the module, the bit where you bring selected parts of your learning together and show yourself and me and the other examiners, what you can do.

### Format of Submission

Your submission should be a single PDF document, not WORD, but PDF with a file size limit of 50 MB and should include the following sections:

- Include the following disclaimer at the top of the first page of your report.

*A report submitted to Dublin City University, School of Computing for module CA699I: Topics of AI 2022-2023. I hereby certify that the work presented and the material contained herein is my own except where explicitly stated references to other material are made.*

- A title describing the topic to be addressed.
- Include your name, student number, and your class.
- A short (150 word maximum) abstract overviewing the contents of your submission. It should be possible for someone with a background in information management to read and understand this abstract without needing to make reference to the report itself, and to have a clear idea about the topic explored of your report.
- The main body of the report should include numbered sections (and where you feel appropriate subsections) as follows:
  - An overview of the objectives of your system. Include details of what the system will do, how it will do it and what constraints or limitations your system will have. **(10%)**
  - A functional description of the system. Give details of the techniques to be used. Include an analysis of the pros and cons of your design. **(50%)**
  - Evaluation plan. Explain how the system would be assessed and evaluated. **(15%)**
  - A discussion of how your system could form the basis of a successful business - or – a discussion of the architectural and system design aspects. **(25%)**
  - A list of the references used in your research giving full publication details. You should cite these references in your report at relevant points. For each reference you should aim to include the following details as appropriate: author(s), title, year of publication, conference/journal, pages, volume no.

### Other Issues

There is no single correct format for this assessment. Every one will be different, even having different headings and emphasising different aspects is possible. You may use a combination of presentation formats. These might include short

sections of essay style prose, bullet points of key points, clearly labelled diagrams, equations, pseudo code, and possibly other formats.

Your report should include no more than **3,000 words** excluding the abstract and reference list. The number of pages will depend on the number and size of diagrams, lists, etc, but should typically be in the region of less than 10. The difficulty you will face is condensing it down to those wordcount limits, so this is a lesson in concise writing.

You should NOT include any code as part of your submission. This is an analysis, design and specification assignment, not an implementation task.

Unacknowledged copying of text and diagrams is, of course, plagiarism. The disclaimer at the head of your report states that you are aware of the need to acknowledge material included in your report which is not original and the submissions will be run through Turnitin automatically as part of the submission process.

Presentation is always important so while there's not a explicit element of marks assigned for presentation, silly things like spelling errors and, bad punctuation; will create a bad impression, just like a dis paragraph, and I do expect professional standards of presentation.

## Marking Criteria

The following can be said of a perfect submission:

"You have written an excellent and well structured report based around a novel and innovative idea. The writing and other presentation aspects in the report are clear and concise. You have provided full reference details for your sources and you show clear evidence of reading and analysis beyond material provided in lectures. You have shown excellent judgment in your choice of relevant material. You have compared and contrasted the material from your reading, and commented thoughtfully on aspects which you feel to be strengths and weaknesses of the techniques used.' Your discussion of how your system could form the basis of a successful e-commerce start-up is well thought-out and logically presented."

The following gives the criteria for assessment against this ideal:

### H1

You have written a very good and well structured report. You have clearly described the motivation and specification of your system. Your analysis and design are well integrated, and include material beyond that covered in lectures. You have compared and contrasted techniques clearly, and displayed insights into their relative merits. Your e-commerce discussion is well founded and acceptably presented.

### H2

Your report is good but the structure may not be smooth or some points may not be well explained. You have shown good evidence of limited background reading.

You have made a basic attempt to critically analyse the methods covered in your report. Your e-commerce discussion is acceptable and acceptably presented.

*Pass*

You have written a complete report, but it has some weaknesses in its structure. You show very little sign of background reading and your report is limited and difficult to follow. Your e-commerce discussion is weak.

*Fail*

Your report is incomplete/missing. There is no evidence of background reading. Your presentation is poor and difficult to follow and your e-commerce/system design discussion is weak and shows little thought.