MOD006558 FUNDAMENTALS OF ARTIFICIAL INTELLIGENCE: ASSESSMENT 2022-2023

PORTFOLIO OF IN-CLASS EXERCISES (20%)

During the trimester, weekly practical classes will re-enforce principles of the associated lecture topic. Of these, there will be **five** programming exercises whose solutions should be archived into a portfolio and submitted along with the main assignment essay at the end of the trimester. These exercises should be worked on in scheduled practical class time and your own time, and *students can support/help each other* provided that no actual code is exchanged between students, whether embedded in an email or attached as a separate file - verbal discussion and/or communication by free text grammatical social media is encouraged.

ESSAY (80%)

For any *one* **book**, write a 2000-word essay evaluating the real-world current status of a particular A.I. technology against the fiction of how the A.I. is presented in the particular example of your chosen genre.

The title of your essay should conform to the following template:

Discuss the AI related issues in the fiction book <insert chosen book title> and compare and contrast these with actual recent developments in <insert chosen AI technique>.

Artificial Intelligence often forms a backdrop to many iconic science-fiction books, for example:

2001: A Space Odyssey (short story by Arthur C. Clark and the HAL 9000 computer)
Do Androids Dream of Electric Sheep? (by Phillip K. Dick and is the inspiration for 'Blade Runner')
I, Robot (Isaac Asimov's book introducing the 'laws of robotics')
Foundation (book/series by Asimov where statistical models programmed into a computer can predict human behaviour)

The following links are just a selection of repositories that provide a wealth of possibilities/ideas for your chosen AI technology in book fiction>

Wikipedia. Artificial intelligence in fiction (includes a section on literature)>
https://en.wikipedia.org/wiki/Artificial_intelligence_in_fiction

Wikipedia. List of fictional computers (includes a section on literature)>
https://en.wikipedia.org/wiki/List_of_fictional_computers

Wikipedia. List of fictional robots and androids (includes a section on literature)>
https://en.wikipedia.org/wiki/List_of_fictional_robots_and_androids

NB You should discuss your chosen topic; above all else this is to ensure the topic is suitable and that the topic is not being duplicated by another student.

In case it is a while since you have undertaken essay writing, ARU **Study Skills Plus** has a number of resources available online at: https://myaru.sharepoint.com/sites/student-learning-assessment/SitePages/study-skills.aspx There are a range of options including 'Quick guides' in the form of simple narrated Powerpoint presentations; a more in-depth 'Step by step guide to academic writing' and other guides.

Coursework submission
Structure your submission with a folder named after your sid e.g. 'sid1234567' Within this folder there should be two further folders, one called 'Portfolio' and the other called 'Essay' or similar. The portfolio folder should itself contain one folder per assessed exercise, each containing two files, the C# source code (.cs) and the C# executable (.exe). The assessed exercises are; week 3 (Turing), week 4 (Journey planner), week 6 (fuzzy logic), week 9 (NLP), week 10 (Q-learning). The essay folder should contain just one document. The submission, 'sid1234567' should then be compressed into a single zip file e.g. 'sid1234567.zip' and submitted through Canvas by **2pm on Friday 21st April 2023**. Note do not submit VS Project files as this can produce huge file sizes.

ASSESSMENT

For the portfolio, each exercise solution is worth four marks; source code submitted (1 mark), source code reflects correct solution (1 mark), binary code executes without intervention (1 mark), binary code executes correct solution (1 mark). For example if only 3 exercises are submitted and all achieve maximum marks you will be awarded 12/20 towards the final mark.

For the essay, that essay will be marked on i) a discussion of the technical specifics of the chosen 'real' A.I. – which must include the technical specifics (e.g. an algorithm, pseudocode, or diagram formally describing the technique), ii) the apparent technical specifics (as far as you are able to derive or infer) of the comparable science-fiction A.I., and on iii) a critique/evaluation as to what extent the capacity of the fictional A.I. might be achievable in the real world in the near future. See the separate mark feedback sheet for details on marking criteria. Feedback will be via Canvas (downloadable feedback sheet) and e-vision.

Reassessment
If a re-assessment is required you should re-submit the main coursework assignment (the essay) by the standard due date for Trimester 2 2022-23 resubmissions and your mark out of 100% will be calculated on this new main assignment submission only (usually the system will cap this at 40%). Note there will be NO portfolio exercises taken into account irrespective of how well they were undertaken at the first attempt. You are encouraged to explore a different approach to writing the main assignment compared to the first attempt.

MOD006558 Fundamentals of Artificial Intelligence Coursework 010 feedback sheet: 2022-23

MOD006558 feedback mark sheet 2022-23									
	In-class exercises (not used in resubmission)	**Essay**							**Overall 010 mark**
Student	**/20**	**Critique of real AI technology**	**Critique of fictional AI technology**	**Evaluation**	**Grammar, structure, presentation**	**Comment**	**%**	**/80**	**%**
	Weighted 0.2 Each exercise = 4marks. Eg if 4 of 5 exercises are presented successfully the mark is 16/20	A: Excellent technical description. B: AI choice good, lacks some detail. C: Sound AI focus, ambiguous. D: lacks detail, adequate. F: Limited or no obvious AI choice.	A: Excellent well-inferred and relevant AI detail. B: Weakly inferred AI, good relevance. C: Sound fictional AI relevance, lacks detail. D: Adequate detail, no comparative relevance. F: Limited or no AI relevance.	A: Excellent technical / social comparative evaluation. B: Good technical and/or social comparison. C: Sound limited comparison / evaluation. D: Adequate speculation. F: Limited or no comparison.	A: Well written, with exellent citations / references. B: Well-written, good structure. C: Sound style, some grammatical errors. D: Adequate (untidy, poorly structured). F: Limited style and grammar.	Personalized comments specific to student submission.	Each component is assigned a grade (F, D, C, B, A) and each maps to a mark (0-100) from which the average is taken.	Weighted 0.8	Overall weighted mark
Sid Number	**Mark**	**Grade**	**Grade**	**Grade**	**Grade**	**Comment**	**Mark**	**Mark**	**Final Mark**