



CET313 – Artificial Intelligence

Assessment Brief

Intelligent Prototype Development

1. Specification

This assignment is weighted at 100% of the overall module and will be marked out of 100.

This assessment requires approximately 40 hours to complete.

The aim of this assessment is to provide you with an opportunity to demonstrate your understanding and practical skills in Artificial Intelligence. You must propose your own project concept, subject to approval by the Module Leader. The assessment is designed to assess your ability to develop a small prototype, evaluate its performance, and compile a comprehensive report. Additionally, you are required to submit a portfolio of evidence from practical exercises undertaken during the course.

1.1. Learning Outcomes

- LO1.** Demonstrate comprehension of a range of AI techniques and their application to problem solving within society, industry, and research.
- LO2.** Articulate awareness of contemporary developments in the field of AI and their application and potential implications.
- LO3.** Critically assess real-world problems and determine which AI approaches are suitable for their solutions.

1.2. Deadlines

Files submitted via Canvas. Deadline

Thursday, 11th January 2024

13:59 pm



2. Important Information

All work is to be **completed individually**, except where explicitly stated, and you will only be able to receive Marks for your own work. You are responsible for the security and integrity of your own files, and you must not permit others access to your assignment work.

Plagiarism or paraphrasing without due accreditation will be dealt with severely as set out in the University Infringement of Assessment Regulations and detailed in the Programme Handbook. You can also refer to the library guidebook on plagiarism such as [Avoiding plagiarism - University Library Services \(sunderland.ac.uk\)](https://www.sunderland.ac.uk/library/guidebook/plagiarism)

Students are permitted to use **AI tools** used in an assistive role within the assessment. However, the student must declare in the submission the used tool(s) and how did you use it. Examples of where AI might be used in an assistive category include:

- Drafting and structure content.
- Supporting the writing process in a limited manner.
- As a support tutor.
- Supporting a particular process such as translating content.
- Giving feedback on content or proofreading content

However, **students cannot use AI tools to do the project** for you as the work must be completely done by the students. All AI generated content must be validated by the student.

You are expected to submit work in the file formats requested. Submitting links to files saved elsewhere in the cloud will not be considered and will result in a zero mark. The actual files must be loaded to Canvas and readily available to the assessor. After uploading and submitting your files, you must check that you can also retrieve and open them. It is your responsibility to ensure files are not corrupted at the time of submission and to report any issues immediately to the help desk, copying in your lecturer and to seek alternative arrangements when required.



3. Tasks

You are required to complete three main tasks; the tasks details can be found below:

1. Development of Prototype (40%):

Develop a prototype that relates to your selected project. The prototype should showcase your practical skills and knowledge in AI. Ensure the prototype is functional and aligns with the project objectives. The topics introduced in class can be potential options for module assignment.

2. Evaluative Report (40%):

Write an evaluative report that documents your development process, the performance and functionality of the prototype, and the extent to which it meets the project objectives. Your report should critically assess the strengths and weaknesses of your prototype, propose potential improvements, and discuss the implications of your findings. The report must include a link to the e-portfolio that has your weekly workshop notebook.

3. Portfolio of Evidence (20%):

Compile a portfolio of evidence from practical exercises completed during the course. This may include code samples, design documents, project notes, or any relevant material that demonstrates your practical engagement with the course material.

4. Deliverables:

1. Jupyter notebook with the prototype script (if you are using any datasets, you can upload a zip file that contains the Jupyter notebook and any other required files). The notebook should have comments and must show all the results.
2. A report explaining each step of the development and containing the link to the e portfolio. The report structure is shown in the next section.

5. Report Structure

The evaluative report must include the following sections:

- **Abstract** (less than 150 words): This should provide a high-level overview of the project, including its goals, objectives, and outcomes.
- **Introduction** (1-2 pages): This should provide more detailed information about the project, including its background, motivation, and scope.
- **Literature Review** (1-2 pages): Short literature review of the most relevant research papers on the project.
- **Methodology** (2-3 pages): This should describe the methods and techniques that were used to complete the project.
- **Results and Discussion** (2-3 pages): This should present the findings of the project in a clear and concise manner. The results should be interpreted and discuss their implications.
- **References**: This should list all the sources that were cited in the report.



6. Marking Criteria

Sections	Novice 0 – 20%	Beginner 21 – 40%	Competent 41 – 60%	Proficient 61 – 80%	Expert 81 – 100%
Task 1 – Prototype	Not done or unrelated project have been done.	You have developed your code to a basic standard, but some parts may not be fully functional. Your code is not commented.	You have developed your code to a good standard, but a small part may not function as expected. You have tried to implement something beyond what was delivered in tutorials, and tried to explain what your code does in the comments.	You have developed your code to a high standard, and it functions as expected. It goes beyond the work covered in tutorials. You have tried to explain what your code does using comments.	You have developed your code to an excellent standard evidenced complex work that goes beyond that covered in tutorials and your code is commented to a professional standard.
40 Marks	0-8 Marks	8-16 Marks	16-24 Marks	24-32 Marks	32-40 Marks
Task 2 – Report Introductory parts (Abstract and Introduction)	Abstract: Not included or not relevant, Introduction: Not included or not relevant,	Abstract: Provides a very basic or incomplete overview of the project. Introduction: a very basic or incomplete overview of the project.	Abstract: a basic overview of the project but may be incomplete or unclear. Introduction: a basic overview of the project but may be incomplete or unclear.	Abstract: Provides a generally complete overview of the project but may lack some detail. Introduction: a generally complete overview of the project but may lack some detail or organisation.	Abstract: Provides a clear and concise overview of the project, including its goals, objectives, and outcomes. Introduction: a comprehensive and well-organized overview of the project, including its background, motivation, and scope.
10 Marks	0-2 Marks	2-4 Marks	4-6 Marks	6-8 Marks	8-10 Marks
Task 2 – Report Literature Review	Not included or not relevant to the project	A very basic or incomplete overview of the most relevant research papers on the project.	A basic overview of the most relevant research papers on the project but may be incomplete or unclear.	A generally complete overview of the most relevant research papers on the project but may lack some detail or organisation.	A comprehensive and well-organized overview of the most relevant research papers on the project. Critically evaluate the existing research and identify gaps in the literature
5 Marks	0-1 Marks	1-2 Marks	2-3 Marks	3-4 Marks	4-5 Marks



Task 2 – Report Methodology	Not included or not relevant to the project	A very basic or incomplete description of the methods and techniques that were used to complete the project.	A basic description of the methods and techniques that were used to complete the project but may be incomplete or unclear.	A generally complete description of the methods and techniques that were used to complete the project but may lack some detail or justification.	A clear and concise description of the methods and techniques that were used to complete the project. The methodology is appropriate for the project and is well-justified.
10 Marks	0-2 Marks	2-4 Marks	4-6 Marks	6-8 Marks	8-10 Marks
Task 2 – Report Results and Discussion	Not included or not relevant to the project	The findings of the project in a very basic or incomplete manner. The results may not be interpreted or discussed at all.	The findings of the project in a basic manner but may be incomplete or unclear. The results may be interpreted and discussed, but the discussion may be very basic.	The findings of the project in a generally complete manner but may lack some detail or organisation. The results may be interpreted and discussed, but the discussion may be less insightful	The findings of the project in a clear and concise manner. The results are interpreted, and their implications are discussed in a well-organized and insightful way.
10 Marks	0-2 Marks	2-4 Marks	4-6 Marks	6-8 Marks	8-10 Marks
Task 2 – Report Format and references	Major issues with writing and referencing	The report has some minor writing issues and no in text citation or references list provided	The report has some minor writing issues, the citations and references have some errors	The report is well written, but the citation and references have some errors	The report is well written with professional in text and full reference list
5 Marks	0-1 Marks	1-2 Marks	2-3 Marks	3-4 Marks	4-5 Marks
Task 3- e-Portfolio	Not done or a small number of labs have been uploaded	An attempt to less than half of the labs has been uploaded	An attempt to most of the labs has been uploaded. However, some of the questions and challenges have not been done	All the labs have been uploaded. Most of the questions and challenges have been done	All the labs have been done professionally with a solution to all challenges and fully documentation.
20 Marks	0-4 Marks	4-8 Marks	8-12 Marks	12 - 16 Marks	16-20 Marks