

Artificial Intelligence Foundation – JC3001 – Coursework Assessment

October 17, 2025

1 Introduction

This coursework is an exploration of AI and its applications in an AI-enabled world. Thus, it will primarily consist of literature appraisal and practical exploration of AI algorithms. You are not expected to write the code of these algorithms from scratch; instead, you can explore and evaluate the algorithms using appropriate tools over examples or case studies.

This assessment component is worth **30%** of the course overall mark.

Due Date: Monday 24 th November, 2025

Please note the following:

- **Late submissions** will be subject to the Penalties for Late Submission of Coursework as outlined in the **Student Handbook**.
- **Plagiarism** will not be tolerated and will be **escalated** according to the University's Code of Practice.

2 Coursework Tasks

The coursework essay should provide a clear description of:

- i) Task 1: Explore the problem domains in the form of a literature review of AI techniques and algorithms commonly used in two key areas: **intelligent warehousing (domain 1)** and **health informatics (domain 2)**, as covered in the published AI literature. Please limit your literature review to these two domains.
- ii) Task 2: The problems to be solved: description of the similarities and differences between the two domains and how these impact the potential AI solutions. Justify the applicable AI solutions in each application domain.

- iii) Task 3: The ethical issues that are found in the literature in each domain, and how these ethical issues can be addressed.

Please ensure to complete the following tasks as part of completing the coursework. It is essential to follow the structure and formatting guidelines provided in section 3. These guidelines are designed to support you in presenting your research effectively. Section 4 shows how your essay will be assessed.

2.1 Task 1: What are the AI techniques covered in the problem domain literature review?

The first step involves completing a literature review on the two specified domains, exploring AI techniques and algorithms reported in the literature. By applying AI system thinking, explore the challenges within each domain and the AI technologies that can address these challenges.

2.2 Task 2: What are the problems to be solved?

Based on your literature review on the two specified domains, identify technical challenges in each domain, and evaluate the AI approaches that can be used to address these challenges. Please consider the following:

- a) Consider the use of summary tables, design diagrams, pseudocode, and formal methods in discussing potential solutions;
- b) Identify appropriate examples to demonstrate the applicability of AI, e.g. relevant datasets, case studies, etc.

2.3 Task 3: What are the ethical issues?

In contrasting the two application domains: automated warehousing and health informatics, provide a critical review and highlight the Responsible AI issues in each domain, and how these ethical issues can be resolved.

2.4 Task 4: Summarise your work

The coursework is to be submitted in the form of an essay in which the work done is summarised with sufficient details within a maximum of 3 pages.

3 Writing the Essay

3.1 Structure

The tasks are to be presented in the form of an essay or a report, which is expected to have the following sections:

- Section 1: An introduction to the problem domains and the work you have done;
- Section 2: Three subsections, each covering one of the tasks specified earlier;
- Section 3: A critical review of your work to summarise;
- Section 4: A conclusion.

3.2 Formatting

In formatting your essay, please observe the following:

- Page limit: the essay should not exceed **3 pages single column**, excluding references.
- Font size must be **12pt**.
- Font style: **Arial**.
- References: a complete list of references cited in the essay should be included at the end.

The use of a template from an international conference or journal is strongly advisable, e.g. IEEE, AAAI, or ACM.

4 Marking Scheme

The work will be assessed on the following criteria:

- **Coverage of area, including background, planning, literature review:** The quality of work done in answering Task 1, this section would be expected to show excellent coverage, a sound understanding of the topic with original insights and an outstanding critical review of literature.
- **Challenges and solutions:** The quality of work done in answering Task 2. This section is expected to demonstrate extensive work, showcasing the ability to compare and contrast the applications of different AI techniques. This should be very well documented with solid analytical critique, e.g. supported with mathematical analysis and/or summary tables/analysis diagrams.
- **Ethical issues:** The quality of work done in answering Task 3, this section would be expected to show outstandingly excellent reflection on the work done viewed from a Responsible AI perspective.

- **Structure and presentation, references, and bibliography.** The quality of work done on writing the work and producing the essay. Very well structured, written, referenced, and presented in the relevant conference template, with appropriate lengths of sections and main stress on contribution sections.