Module Specification

Artificial Intelligence Group Project [TSI]

Version: 2023-24, v1.0, 06 Dec 2023

Contents

Part 1: Information

Module title: Artificial Intelligence Group Project [TSI]

Module code: UFCE7W-18-M

Level: Level 7

For implementation from: 2023-24

UWE credit rating: 18

ECTS credit rating: 9

College: College of Arts, Technology and Environment

School: CATE School of Computing and Creative Technologies

Partner institutions: None

Field: Computer Science and Creative Technologies

Module type: Module

Pre-requisites: None

Excluded combinations: None

Co-requisites: None

Continuing professional development: No

Professional, statutory or regulatory body requirements: None

Part 2: Description

Overview: This module will provide students with the opportunity to bring together knowledge and skills gathered throughout the study programme by conducting a project designing, implementing, evaluating and presenting an AI-based solution to a real-world problem.

Students work in small groups, selecting and using appropriate project management methodologies and tools. The work should involve making best use of the technical and human resources available to you.

A series of lectures by staff and guest speakers will present emerging problems of applied AI and state-of-the-art techniques for handling the issues that often arise during AI-based projects.

Features: Not applicable

Educational aims: In this module, students will work in mixed-specialism groups to design, plan, and implement an AI-based project.

Outline syllabus: Module phases:

1. Project proposal

By the start of the module, students will have identified a project for development. They will then work with a supervisor and with input from industry mentors to plan, prototype and test the project deliverable. Students also choose a contemporary project management technique, justifying the methodology taken in terms of the scale of the project and group.

2. Project Implementation

The implementation of the study project is based on a structured professional approach to the research project. Collaboration and effective project management are crucial, ensuring that the project stays on track, adheres to timelines, and successfully addresses the research goals. Regular feedback and adjustments are made as necessary, and ethical considerations, including informed consent and data protection, are upheld throughout the project's execution.

Straddling both phases, there will be a number of facilitated learning workshops. The workshop topics will be established by a combination of the knowledge gaps in the student groups and the projects undertaken. Thus students will be supported through a personalised journey of learning so they develop their knowledge and skills according to their aspirations.

Part 3: Teaching and learning methods

Teaching and learning methods: Students will be assigned to groups by the module team and each group provided with one of a range of problems. To ensure authenticity, the problems to be tackled will be designed in collaboration with one or

more of the many commercial partners with whom TSI has ongoing relationships. Each group will be assigned a mentor, with whom they will have scheduled meetings to present and discuss progress.

A series of timetabled workshops by staff and guest speakers will introduce concepts and techniques relevant to tackling complex problems. These workshops will cover contemporary thinking around applied AI issues such as:

- business aspects like profitability and sustainability of AI-solutions,

- legal aspects like GDPR and intellectual property,

- ethical issues like fairness, accountability and trust,

- privacy issues.

Module Learning outcomes: On successful completion of this module students will achieve the following learning outcomes.

> **MO1** Demonstrate logical examination of information and coherent rationale for decisions.

> **MO2** Develop modern software solutions, integrating ethical, social, legal and economic aspects.

> **MO3** Design, develop, maintain, test and evaluate a novel data analytic, machine learning, and/or artificial intelligence solution and apply this to a real-world context.

Hours to be allocated: 180

Contact hours:

> Independent study/self-guided study = 56 hours

> Face-to-face learning = 24 hours

> Total = 80

Reading list: The reading list for this module can be accessed at readinglists.uwe.ac.uk via the following link https://rl.talis.com/3/uwe/lists/FF029649-3A22-B4F2-AE40-0C5351D669F4.html?lang=en&login=1

Part 4: Assessment

Assessment strategy: Projects will be assessed according to the quality of both process and product. In addition to summative assessment, peer review will be used periodically to provide additional feedback and direction (as a formative assessments)

Phase 1. Project proposal:

The proposal is submitted at the end of Phase 1 and includes a clear description of the proposed project deliverables, initial design and planning, and team member responsibilities. This is considered as formative assessment.

Phase 2. Project Portfolio and Viva

This assessment includes a set of project implementation artefacts and deliverables. The project implementation portfolio consists of the teams' process and design documentation, including outputs such as:
a. Shared document libraries featuring an annotated bibliography
b. Team journals: documenting research and development progress and problems
c. Project management and participation documentation (e.g., Kanban boards)
d. Prototypes and testing results
e. Peer/tutor review feedback and reflection
At the end of the module, the team will present the results of the project to tutors / invited guests and will answer questions about the product and process

A collaborative process and code of conduct will be developed to ensure, document and assess individual participation. Individuals who demonstrably do not participate or contribute significantly to the team deliverable will not be allowed to pass the module. Assessment of individual contribution will be through: authorship and quality of contributions to reflective report; documented participation in team meetings and activities; extent of tasks assigned and completed; and individual performance at the presentation.

Assessment weighting and mark allocation across all assessments will be approximately 30% team process; 30% team outcome; 40% individual contribution

Students who resit will be formed into new groups and will be required to undertake a new case study.

Assessment tasks:

Written Assignment (First Sit)

Description: Report and presentation of technical reports, each based on its own case study.

Weighting: 100 %

Final assessment: Yes

Group work: Yes

Learning outcomes tested: MO1, MO2, MO3

Written Assignment (Resit)

Description: Report and presentation of technical reports, each based on its own case study.

Weighting: 100 %

Final assessment: No

Group work: Yes

Learning outcomes tested: MO1, MO2, MO3

Part 5: Contributes towards

This module contributes towards the following programmes of study:

Computer Science (Data Analytics and Artificial Intelligence) {Double Degree} [TSI] MSc 2023-24