COMP6400

Intelligent Machines, Ethics and Law

Session 1, In person-scheduled-weekday, North Ryde 2024

School of Computing

Contents

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Credit points
10

Prerequisites

Corequisites
Co-badged status Co-badged with COMP2400.
Unit description This unit is co-designed and co-taught by experts from relevant fields. It introduces modern Artificial Intelligence (AI) technology, and evaluates the capabilities of several intelligent systems on well-known tasks such as facial recognition and the assessment of insurance claims. In the context of these systems, the unit will address fundamental societal (legal/ political/ ethical) issues that need to be addressed when designing and deploying AI-powered computer applications towards achieving Responsible AI. The implications of such requirements on the use of AI systems will be discussed along with possible technical remedies to address them.

Important Academic Dates

Information about important academic dates including deadlines for withdrawing from units are available at https://www.mq.edu.au/study/calendar-of-dates

Learning Outcomes

On successful completion of this unit, you will be able to:

ULO1: Employ existing AI systems on benchmark business problems and evaluate the results.

ULO2: Demonstrate an appreciation of the ethical, legal, and other socioeconomic implications of AI.

ULO3: Outline sustainable remedial measures for proposed AI solutions, aligned with the ethical and legal requirements, in the business context.

ULO4: Effectively communicate to various stakeholders how the potential legal, ethical and social issues are addressed in the context of the solutions developed.

General Assessment Information

This unit is jointly taught by academics from Philosophy (Weeks 2 to 5), Law (Weeks 6 to 9) and Computing (Weeks 10 to 13). Correspondingly there are three assessment tasks. There are also practice based tasks designed to be completed by the students in the SGTA classes. Should there be a need for clarification or help regarding assessment tasks, students should contact corresponding teaching staff. The convenor should be contacted only if the problem does not get resolved.

Requirements to Pass this Unit

To pass this unit you must:

- Achieve a total mark equal to or greater than 50%.

Late submission

Unless a Special Consideration request has been submitted and approved, a 5% penalty (of the total possible mark of the task) will be applied for each day a written report or presentation assessment is not submitted, up until the 7th day (including weekends). After the 7th day, a grade of '0' will be awarded even if the assessment is submitted. The submission time for all uploaded assessments is 11:55 pm. A 1-hour grace period will be provided to students who experience a technical concern. The late submission rule was changed to align with the new Faculty policy.

For any late submission of time-sensitive tasks, such as scheduled tests/exams, performance assessments/presentations, and/or scheduled practical assessments/labs, please apply for Special Consideration.

In this unit, late submissions will be accepted as follows:

- Practice based tasks: NO, unless Special Consideration is granted
- Media Presentation: YES, Standard Late Penalty applies
- Assignment 1: YES, Standard Late Penalty applies
- Assignment 2: YES, Standard Late Penalty applies

Special Consideration

The Special Consideration Policy aims to support students who have been impacted by short-term circumstances or events that are serious, unavoidable, and significantly disruptive, and which may affect their performance in assessment. If you experience circumstances or events that affect your ability to complete the assessments in this unit on time, please inform the convenor and submit a Special Consideration request through ask.mq.edu.au.

Assessment Tasks

Name	Weighting	Hurdle	Due
SGTA Tasks	15%	No	Weekly, starting Week 2.
Online Quizzes (1, 2, 3)	15%	No	Week 5
Assignment 1	30%	No	Week 8
Assignment 2	40%	No	Week 12

SGTA Tasks

Assessment Type [1]: Practice-based task
Indicative Time on Task [2]: 0 hours
Due: **Weekly, starting Week 2.**

Weighting: **15%**

Students will complete assigned tasks in the SGTA classes. Tasks are designed to enhance their practical skills, understanding of the content as well as ability to communicate. The overarching objective is to prepare students better for the two assignments.

On successful completion you will be able to:

- Employ existing AI systems on benchmark business problems and evaluate the results.
- Demonstrate an appreciation of the ethical, legal, and other socioeconomic implications of AI.
- Outline sustainable remedial measures for proposed AI solutions, aligned with the ethical and legal requirements, in the business context.
- Effectively communicate to various stakeholders how the potential legal, ethical and social issues are addressed in the context of the solutions developed.

Online Quizzes (1, 2, 3)

Assessment Type [1]: Quiz/Test
Indicative Time on Task [2]: 3 hours
Due: **Week 5**
Weighting: **15%**

Three online quizzes centred around the three main themes of the unit, aimed at supporting student understanding and preparation for the assignments.

On successful completion you will be able to:

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- Demonstrate an appreciation of the ethical, legal, and other socioeconomic implications of AI.
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- Effectively communicate to various stakeholders how the potential legal, ethical and social issues are addressed in the context of the solutions developed.

Assignment 1

Assessment Type [1]: Case study/analysis

Indicative Time on Task [2]: 30 hours
Due: **Week 8**
Weighting: **30%**

Detail analysis of the societal issues raised by a specified AI system, and development of a proposed, sustainable remedy addressing those issues.

On successful completion you will be able to:
- Demonstrate an appreciation of the ethical, legal, and other socioeconomic implications of AI.
- Outline sustainable remedial measures for proposed AI solutions, aligned with the ethical and legal requirements, in the business context.
- Effectively communicate to various stakeholders how the potential legal, ethical and social issues are addressed in the context of the solutions developed.

Assignment 2

Assessment Type [1]: Programming Task
Indicative Time on Task [2]: 40 hours
Due: **Week 12**
Weighting: **40%**

Students will run pre-trained AI systems on well-known problems of interest to business, and present the results of their experiments, evaluations and analysis.

On successful completion you will be able to:
- Employ existing AI systems on benchmark business problems and evaluate the results.
- Demonstrate an appreciation of the ethical, legal, and other socioeconomic implications of AI.
- Outline sustainable remedial measures for proposed AI solutions, aligned with the ethical and legal requirements, in the business context.
- Effectively communicate to various stakeholders how the potential legal, ethical and social issues are addressed in the context of the solutions developed.

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[1] If you need help with your assignment, please contact:

- the academic teaching staff in your unit for guidance in understanding or completing this type of assessment

- the Writing Centre for academic skills support.

[2] Indicative time-on-task is an estimate of the time required for completion of the assessment task and is subject to individual variation

Delivery and Resources

This unit is co-badged with COMP2400, an UG unit. It is designed to be offered on a Face-to-Face format. Apart from lectures, there are practical classes (associated with the computing related lectures -- Weeks 10 onwards) and SGTAs throughout the semester. Please consult the university timetable for venue and time.

There is no text book for the unit. Necessary resources will be provided by the teaching team on the iLearn page.

The assessment of this unit includes some writing tasks. Limited training in writing skills will be provided through regular learning and teaching activities. **Students are strongly encouraged to utilise the support provided by the university, via facilities such as the Writing Centre**. Details are provided under "Student Support" below.

Unit Schedule

1. Unit organization + Advice on writing essays/reports (Week 1, Abhaya Nayak + Oisin Deery)
2. Ethical aspects of AI (Weeks 2-5, Oisin Deery, Philosophy)
3. Legal aspects of AI (Weeks 6-9, Rita Matulyonite and Niloufer Selvadurai, Law)
4. Computational aspects of AI (Weeks 10-13, Abhaya Nayak, Subhas Sagar, Computing)

Part of Week 13 may be used for unit revision.

Policies and Procedures

Macquarie University policies and procedures are accessible from Policy Central (https://policies.mq.edu.au). Students should be aware of the following policies in particular with regard to Learning and Teaching:

- Academic Appeals Policy
- Academic Integrity Policy
- Academic Progression Policy
- Assessment Policy
- Fitness to Practice Procedure
- Assessment Procedure

- Complaints Resolution Procedure for Students and Members of the Public
- Special Consideration Policy

Students seeking more policy resources can visit Student Policies (https://students.mq.edu.au/support/study/policies). It is your one-stop-shop for the key policies you need to know about throughout your undergraduate student journey.

To find other policies relating to Teaching and Learning, visit Policy Central (https://policies.mq.edu.au) and use the search tool.

Student Code of Conduct

Macquarie University students have a responsibility to be familiar with the Student Code of Conduct: https://students.mq.edu.au/admin/other-resources/student-conduct

Results

Results published on platform other than eStudent, (eg. iLearn, Coursera etc.) or released directly by your Unit Convenor, are not confirmed as they are subject to final approval by the University. Once approved, final results will be sent to your student email address and will be made available in eStudent. For more information visit ask.mq.edu.au or if you are a Global MBA student contact globalmba.support@mq.edu.au

Academic Integrity

At Macquarie, we believe academic integrity – honesty, respect, trust, responsibility, fairness and courage – is at the core of learning, teaching and research. We recognise that meeting the expectations required to complete your assessments can be challenging. So, we offer you a range of resources and services to help you reach your potential, including free online writing and maths support, academic skills development and wellbeing consultations.

Student Support

Macquarie University provides a range of support services for students. For details, visit http://students.mq.edu.au/support/

The Writing Centre

The Writing Centre provides resources to develop your English language proficiency, academic writing, and communication skills.

- Workshops
- Chat with a WriteWISE peer writing leader
- Access StudyWISE
- Upload an assignment to Studiosity
- Complete the Academic Integrity Module

The Library provides online and face to face support to help you find and use relevant information resources.

- Subject and Research Guides
- Ask a Librarian

Student Services and Support

Macquarie University offers a range of Student Support Services including:

- IT Support
- Accessibility and disability support with study
- Mental health support
- Safety support to respond to bullying, harassment, sexual harassment and sexual assault
- Social support including information about finances, tenancy and legal issues
- Student Advocacy provides independent advice on MQ policies, procedures, and processes

Student Enquiries

Got a question? Ask us via AskMQ, or contact Service Connect.

IT Help

For help with University computer systems and technology, visit http://www.mq.edu.au/about_us/offices_and_units/information_technology/help/.

When using the University's IT, you must adhere to the Acceptable Use of IT Resources Policy. The policy applies to all who connect to the MQ network including students.

Changes from Previous Offering

1. Order of the modules has changed -- computing is now the last module in order to align with what is being taught in the Data Science unit that most students would be doing.
2. Number of assessment tasks has been reduced.
   1. Quizzes have been replaced by a single media presentatiion task
   2. Practice based tasks have been introduced to encourage active student participation.

Unit information based on version 2024.03 of the Handbook