UNSW Course Outline

ZEIT3112 Special Topic 2 - 2024

Published on the 27 Jun 2024

General Course Information

Course Code : ZEIT3112
Year : 2024
Term : Semester 2
Teaching Period : Z2
Is a multi-term course? : No
Faculty : UNSW Canberra
Academic Unit : School of Systems and Computing
Delivery Mode : In Person
Delivery Format : Standard
Delivery Location : UNSW Canberra at ADFA
Campus : UNSW Canberra
Study Level : Undergraduate
Units of Credit : 6

Useful Links

Handbook Class Timetable

Course Details & Outcomes

Course Description

This course is a general introduction to Artificial Intelligence (AI), its strengths, weaknesses, and its profound impact on our modern world. Participants will not only grasp the fundamentals of AI but also master the art of applying it to conquer real-world challenges across diverse domains. Additionally, the emerging ethics of the domain will be studied, and its potential impact.

The course aims to familiarise students with AI and its use in modern society. Students will learn the basics of AI as well as how it is used to solve problems in various application domains. Artificial intelligence models in a variety of application domains will be implemented and the results analysed.

Course Learning Outcomes

Course Learning Outcomes
CLO1 : Analyse appropriate uses for AI across a variety of application domains and articulate the advantages and limitations of its deployment.
CLO2 : Identify and evaluate appropriate artificial intelligence and data preprocessing approaches for a given task, taking into account relevant aspects of the task and available data.
CLO3 : Evaluate the strengths, weaknesses and implications of applying specific artificial intelligence approaches.
CLO4 : Communicate artificial intelligence concepts, including where and why artificial intelligence approaches are best used.

Course Learning Outcomes	Assessment Item
CLO1 : Analyse appropriate uses for AI across a variety of application domains and articulate the advantages and limitations of its deployment.	• Reports • Debates
CLO2 : Identify and evaluate appropriate artificial intelligence and data preprocessing approaches for a given task, taking into account relevant aspects of the task and available data.	• Lab assessments • Reports
CLO3 : Evaluate the strengths, weaknesses and implications of applying specific artificial intelligence approaches.	• Lab assessments • Debates • Reports
CLO4 : Communicate artificial intelligence concepts, including where and why artificial intelligence approaches are best used.	• Lab assessments • Debates • Reports

Learning and Teaching Technologies

Moodle - Learning Management System

Assessments

Assessment Structure

Assessment Item	Weight	Relevant Dates
Lab assessments Assessment Format: Individual Short Extension: Yes (3 days)	35%	Start Date: 19/07/2024 11:55 AM Due Date: 02/08/2024 11:55 AM
Reports Assessment Format: Individual Short Extension: Yes (3 days)	40%	Start Date: 26/07/2024 11:55 PM Due Date: 16/08/2024 11:55 PM
Debates Assessment Format: Individual	25%	Start Date: 04/09/2024 11:55 PM Due Date: 18/09/2024 10:00 AM

Assessment Details

Lab assessments

Assessment Overview

There will be four assessments based on the work done in the labs. They will be open for a week, and you can get help in your labs with the general concepts (just not the answers). The first assessment will be worth 5% and returned in week 4, subsequent assessments will be worth 10%.

Course Learning Outcomes

- CLO2 : Identify and evaluate appropriate artificial intelligence and data preprocessing approaches for a given task, taking into account relevant aspects of the task and available data.
- CLO3 : Evaluate the strengths, weaknesses and implications of applying specific artificial intelligence approaches.
- CLO4 : Communicate artificial intelligence concepts, including where and why artificial intelligence approaches are best used.

Assessment information

Note there are four lab assessments. The first is due as per the dates above and worth 5%. The subsequent assessments are due every 3 weeks.

Reports

Assessment Overview

There will be two reports based on a selected topic introduced in the course. Students can choose their topic from one in the list provided or negotiate their own with the course convenor. The first report will be a preliminary report worth 10% where the topic and argument are

introduced. The students will get feedback on their interpretation of the topic and argument which they should incorporate into their final report. The final report is worth 30% and will consist of a full scientific style report and a pre-recorded 5 minute presentation covering the important points of the report.

Course Learning Outcomes

- CLO1 : Analyse appropriate uses for AI across a variety of application domains and articulate the advantages and limitations of its deployment.
- CLO2 : Identify and evaluate appropriate artificial intelligence and data preprocessing approaches for a given task, taking into account relevant aspects of the task and available data.
- CLO3 : Evaluate the strengths, weaknesses and implications of applying specific artificial intelligence approaches.
- CLO4 : Communicate artificial intelligence concepts, including where and why artificial intelligence approaches are best used.

Assessment information

Note: dates are for the first part of the report. The final report is due on Monday 2/11/2024 during exam week.

Assignment submission Turnitin type

This assignment is submitted through Turnitin and students do not see Turnitin similarity reports.

Debates

Assessment Overview

There will be two debates. The first will be on general introductory artificial intelligence topics, the second will be on ethics of artificial intelligence. For each debate, students will in small groups be given a topic and a side two weeks prior to the debate. They will then argue their side in class, each taking a turn, and afterwards each hand in a maximum one page summary of their individual arguments. The first debate will be worth 10% and the second 15%. Individual marking, group presentation.

Course Learning Outcomes

- CLO1 : Analyse appropriate uses for AI across a variety of application domains and articulate the advantages and limitations of its deployment.
- CLO3 : Evaluate the strengths, weaknesses and implications of applying specific artificial intelligence approaches.
- CLO4 : Communicate artificial intelligence concepts, including where and why artificial intelligence approaches are best used.

Assessment information

Note: there are two debates in the labs, the first date is listed above, the second is in the lab time in week 13.

General Assessment Information

Use of Generative AI in Assessments

Unless otherwise indicated in the individual assessment description the following policy applies to the use of generative AI in assessments in this course. Please carefully read the instructions for individual assessment topics as they supersede these instructions:

PLANNING ASSISTANCE

As this assessment task involves some planning or creative processes, you are permitted to use software to generate initial ideas. However, you must develop or edit those ideas to such a significant extent that what is submitted is your own work, i.e. only occasional AI generated words or phrases may form part of your final submission. It is a good idea to keep copies of the initial prompts to show your lecturer if there is any uncertainty about the originality of your work.

If the outputs of generative AI such as ChatGPT form a part of your submission, it will be regarded as serious academic misconduct and subject to the standard penalties, which may include 00FL, suspension and exclusion.

Grading Basis

Standard

Course Schedule

Teaching Week/Module	Activity Type	Content
Week 1 : 15 July - 19 July	Activity	Lecture/Workshop: intro to AI Lab: no lab Lecture: AI models and tasks
Week 2 : 22 July - 26 July	Activity	Lecture/Workshop: Intro to data Lab: understanding AI tasks Lecture: Intro to machine learning
Week 3 : 29 July - 2 August	Activity	Lecture/Workshop: performance measures and data preprocessing Lab: an AI model Lecture: Some machine learning tasks Lab assessment due Friday
Week 4 : 5 August - 9 August	Activity	Lecture/Workshop: intro to deep learning Lab: machine learning models Lecture: Deep learning tasks
Week 5 : 12 August - 16 August	Activity	Compensation day Lab: data preprocessing Lecture: Autonomous systems Report part 1 due Friday
Week 6 : 19 August - 23 August	Activity	Lecture/Workshop: AI for robotics Lab: Applying a deep learning model Lecture: TBD Lab assessment due Friday
Week 7 : 9 September - 13 September	Activity	Lecture/Workshop: AI for human computer interaction Lab: prompt engineering Lecture: TBD
Week 8 : 16 September - 20 September	Activity	Lecture/Workshop: AI in Defence Lab: ethics debate in class Lecture: AI in logistics
Week 9 : 23 September - 27 September	Activity	Lecture: Cyber security and AI Lab: computer vision Lecture: TBD Lab assessment due Friday
Week 10 : 30 September - 4 October	Activity	Lecture: AI in online platforms Lab: AI for social media data Lecture: TBD
Week 11 : 7 October - 11 October	Activity	Lecture/workshop: Security of AI applications Lab: security of AI applications Military training day
Week 12 : 14 October - 18 October	Activity	Lecture/workshop: ethics of AI applications Lab: optional time for assessment help Lecture: AI privacy, data usage etc. Lab assessment due Friday
Week 13 : 21 October - 25 October	Activity	Lecture/workshop AI for good. Lab: ethics debates in class Lecture: exam discussion

Attendance Requirements

Students are strongly encouraged to attend all classes and review lecture recordings.

Course Resources

Recommended Resources

Freely available online resources for extra reading to be confirmed

Staff Details

Position	Name	Email	Location	Phone	Availability	Equitable Learning Services Contact	Primary Contact
Convenor	Jo Plested		room 110, building 15		generally available during working hours, please email to arrange a time.	No	Yes
Lecturer	Benjamin T urnbull				generally available during working hours, please email to arrange a time.	No	No

Other Useful Information

School-specific Information

The Leaning Management System

Moodle is the Learning Management System used at UNSW Canberra. All courses have a Moodle site which will become available to students at least one week before the start of semester. Please find all help and documentation (including Blackboard Collaborate) at the Moodle Support page.

UNSW Moodle supports the following web browsers:
• Google Chrome 50+
• Safari 10+
Internet Explorer is not recommended. Addons and Toolbars can affect any browser's performance.

Operating systems recommended are:
• Windows 10,
• Mac OSX Sierra,
• iPad IOS10

Further details:
Moodle System Requirements
Moodle Log In

If you need further assistance with Moodle:

For enrolment and login issues please contact:

IT Service Centre

Email: itservicecentre@unsw.edu.au

Phone: (02) 9385-1333

International: +61 2 9385 1333

For all other Moodle issues please contact:

External TELT Support

Email: externalteltsupport@unsw.edu.au

Phone: (02) 9385-3331

International: +61 2 938 53331

Opening hours:

Monday – Friday 7:30am – 9:30 pm

Saturday & Sunday 8:30 am – 4:30pm

Study at UNSW Canberra

Study at UNSW Canberra has lots of useful information regarding:

• Where to get help

• Administrative matters

• Getting your passwords set up

• How to log on to Moodle

• Accessing the Library and other areas.

UNSW Canberra Student Hub

For News and Notices, Student Services and Support, Campus Comminity, Quick Links, Important Dates and Upcoming Events

School Contact Information

Deputy Head of School (Education): Dr Erandi Hene Kankanamge

E: e.henekankanamge@adfa.edu.au

T: 02 5114 5157

Syscom Admin Support: syscom@unsw.edu.au

T: 02 5114 5284

Syscom Admin Office: Building 15, Level 1, Room 101 (open 10am to 4pm, Mon to Fri)