02/08/2024, 22:49 Data Mining - ANU



PROGRAMS AND COURSES



Massive amounts of data are collected by public and private organisations, while the Web offers rich information about almost every aspect of human life and society. Analysing such data can provide significant benefits to an organisation or research project. This course provides a practical focus on the technology and research in the area of data mining. It focuses on the algorithms and techniques and less on the mathematical and statistical foundations.

CLASS NUMBER 4223 TERM CODE 3430 CLASS DATES **CLASS INFO Unit Value** Class Start Date 19/02/2024 6 units Class End Date Mode of Delivery In Person 24/05/2024 **COURSE CONVENER** Census Date Dr Kerry Taylor 05/04/2024 CLASS NUMBER 4223 TERM CODE 3430 **CLASS INFO CLASS DATES** Unit Value Class Start Date 6 units 19/02/2024 Mode of Delivery Class End Date In Person 24/05/2024 COURSE CONVENER Census Date **Dr Kerry Taylor** 05/04/2024 **LECTURER** Last Date to Enrol Dr Kerry Taylor 26/02/2024

Learning Outcomes

Upon successful completion, students will have the knowledge and skills to:

- 1. Critically analyse and justify the steps involved in the data mining process,
- 2. Anticipate and identify data issues related to data mining,
- 3. Research, test and apply the principal algorithms and techniques used in data mining,
- 4. Justify suitable techniques to use for a given data mining problem,
- 5. Appraise and reflect upon the results of a data mining project using suitable measurements,
- 6. Investigate application areas and current research directions of data mining,
- 7. Reflect upon ethical and social impacts of data mining.

Research-Led Teaching

The course is updated annually to account for some research progress over the previous year. There is one topic on the course, knowledge graph mining, that particularly reflects very recent research, including that conducted by the course convenor with other ANU colleagues.

Examination Material or equipment

Please see course outline on course Wattle site. Exams will be held using ANU computing labs.

Required Resources

Please see course outline on course Wattle site.

DATA MINING (COMP8410)

Class Overview

Materials & Resources

Feedback

Class Schedule

Assessment Details

Assessment 1

Assessment 2

Assessment 3

Assessment 4

Submission Details

Class Contacts

Recommended Resources

Whether you are on campus or studying remotely, there are a variety of online platforms you will use to participate in your study program. These could include videos for lectures and other instruction, two-way video conferencing for interactive learning, email and other messaging tools for communication, interactive web apps for formative and collaborative activities, print and/or photo/scan for handwritten work and drawings, and home-based assessment.

ANU outlines recommended student system requirements to ensure you are able to participate fully in your learning. Other information is also available about the various Learning Platforms you may use.

Staff Feedback

Students will be given feedback on assignments in the following forms in this course:

- written individual comments as a marked-up rubric and/or individual remarks.
- · verbal comments if requested via procedures notified at the time of assessment return
- summary feedback, including mark distribution, to whole class.

Students will be given feedback on the weekly quizzes by immediate marking, with brief written explanation of wrong answers, and the opportunity to reattempt.

Student Feedback

ANU is committed to the demonstration of educational excellence and regularly seeks feedback from students. Students are encouraged to offer feedback directly to their Course Convener or through their College and Course representatives (if applicable). Feedback can also be provided to Course Conveners and teachers via the Student Experience of Learning & Teaching (SELT) feedback program. SELT surveys are confidential and also provide the Colleges and ANU Executive with opportunities to recognise excellent teaching, and opportunities for improvement.

Other Information

This course introduces fundamental concepts that could potentially be addressed by certain Generative AI tools (e.g., ChatGPT). Hence, the use of any Generative AI tools is not permitted in graded assessments within this course.

Class Schedule

WEEK/SESSION	SUMMARY OF ACTIVITIES	ASSESSMENT
1	Introduction to Data Mining	Please see detailed course outline and weekly course schedule published on wattle after enrolment.
2	Foundation Concepts	
3	Research	
4	Data Warehousing	
5	Association Mining	
6	Classification and Prediction	
7	Classification and Prediction	
8	Cluster Analysis	
9	Outlier Detection	
10	Specialist Topics	
11	Text and Web Mining	
12	Semantic Web and Knowledge Graphs	

Tutorial Registration

See the Timetable webpage.

Assessment Summary

ASSESSMENT TASK	VALUE	DUE DATE	LEARNING OUTCOMES
Weekly online quiz	1 %	*	1,2,3,4,5,6,7
Assignment 1	20 %	11/03/2024	1,6,7
Assignment 2	25 %	06/05/2024	1,2,3,4,5
Final Exam 3 hours	54 %	*	1,2,3,4,5,6,7

^{*} If the Due Date and Return of Assessment date are blank, see the Assessment Tab for specific Assessment Task details

Policies

ANU has educational policies, procedures and guidelines, which are designed to ensure that staff and students are aware of the University's academic standards, and implement them. Students are expected to have read the Academic Integrity Rule before the commencement of their course. Other key policies and guidelines include:

- Academic Integrity Policy and Procedure
- Student Assessment (Coursework) Policy and Procedure
- Special Assessment Consideration Guideline and General Information
- Student Surveys and Evaluations
- Deferred Examinations
- Student Complaint Resolution Policy and Procedure
- Code of practice for teaching and learning

Responsible Officer: Registrar, Student Administration / Page Contact: Website Administrator / Frequently Asked Questions