COMP8230

Mining Unstructured Data

Session 1, In person-scheduled-weekday, North Ryde 2022

School of Computing

Contents

General Information

Unit convenor and teaching staff
Unit Convenor/Lecturer
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Credit points
10

Prerequisites
COMP6200 or ITEC657

Corequisites

Co-badged status

Unit description
Unstructured data, like text data, graph data, audios, and videos widely exist in our daily life. Efficiently and effectively mining the unstructured data are significant and acting as the backbone in many real applications, like machine translation, face recognition, and link prediction. This unit will introduce key concepts in unstructured data mining, including specific algorithms and techniques for unstructured data cleaning, pattern mining, knowledge discovery, and the prediction of unstructured data. By taking this unit you will be given a broad view of the general issues surrounding unstructured data and the application of methodologies and algorithms to such a type of data. You will have the chance to explore an assortment of unstructured data mining techniques, which you will apply to solve problems involved in real scenarios.

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: Demonstrate an understanding of basic concepts, techniques, algorithms and modellings in unstructured data mining.

ULO2: Identify the appropriate data mining techniques and algorithms for real life unstructured data mining problems.

ULO3: Explain how good decision making is supported by descriptive and predictive data mining

ULO4: Present and analyse the unstructured data mining results with advanced data mining techniques.

ULO5: Communicate clearly and effectively

General Assessment Information

Details for each assignment will be available via iLearn

You are encouraged to:

- set your personal deadline earlier than the actual one;
- keep backups of all your important files;
- ensure that no-one else picks up your printouts.

Late submission

Late submissions **will be accepted but will incur a penalty** unless there is an approved Special Consideration request. A 12-hour grace period will be given after which the following deductions will be applied to the awarded assessment mark: 12 to 24 hours late = 10% deduction; for each day thereafter, an additional 10% per day or part thereof will be applied until five days beyond the due date. After this time, a mark of zero (0) will be given. For example, an assessment worth 20% is due 5 pm on 1 January. Student A submits the assessment at 1 pm, 3 January. The assessment received a mark of 15/20. A 20% deduction is then applied to the mark of 15, resulting in the loss of three (3) marks. Student A is then awarded a final mark of 12/20.

Assessment Tasks

Name	Weighting	Hurdle	Due
Weekly Submission	10%	No	One week after each lecture
Report on Data Mining in Industry	30%	No	Week 5
Problem Analysis	30%	No	Week 9

Name	Weighting	Hurdle	Due
Literature Review	30%	No	Week 12

Weekly Submission

Assessment Type [1]: Quiz/Test
Indicative Time on Task [2]: 6 hours
Due: **One week after each lecture**
Weighting: **10%**

Students will be marked based on their answers on weekly submissions.

On successful completion you will be able to:

- Demonstrate an understanding of basic concepts, techniques, algorithms and modellings in unstructured data mining.
- Identify the appropriate data mining techniques and algorithms for real life unstructured data mining problems.
- Explain how good decision making is supported by descriptive and predictive data mining
- Present and analyse the unstructured data mining results with advanced data mining techniques.

Report on Data Mining in Industry

Assessment Type [1]: Report
Indicative Time on Task [2]: 18 hours
Due: **Week 5**
Weighting: **30%**

Students will write a report on an aspect of the application of unstructured data mining in an industry context.

On successful completion you will be able to:

- Demonstrate an understanding of basic concepts, techniques, algorithms and modellings in unstructured data mining.
- Present and analyse the unstructured data mining results with advanced data mining

techniques.

Problem Analysis

Assessment Type [1]: Case study/analysis
Indicative Time on Task [2]: 18 hours
Due: **Week 9**
Weighting: **30%**

Students will be given a sample problem and will discuss the relevant data mining techniques and develop a plan to explore the problem.

On successful completion you will be able to:

- Demonstrate an understanding of basic concepts, techniques, algorithms and modellings in unstructured data mining.
- Explain how good decision making is supported by descriptive and predictive data mining
- Communicate clearly and effectively

Literature Review

Assessment Type [1]: Literature review
Indicative Time on Task [2]: 18 hours
Due: **Week 12**
Weighting: **30%**

Review of work relevant to one of the topics presented in the unit.

On successful completion you will be able to:

- Demonstrate an understanding of basic concepts, techniques, algorithms and modellings in unstructured data mining.
- Identify the appropriate data mining techniques and algorithms for real life unstructured data mining problems.
- Communicate clearly and effectively

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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

Classes

Each week has two hours of lectures. For details of days, times and rooms consult the timetables webpage. There is no workshop/practical class for this unit.

Required and Recommended Texts

All required and recommended readings will be provided as part of the lecture material.

Unit Web Page

The unit web page will be hosted in iLearn, where you will need to log in using your Student One ID and password. The unit will make extensive use of discussion boards also hosted in iLearn. Please post questions there, they will be monitored by the staff on the unit.

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 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.

Unit information based on version 2022.02 of the Handbook