STAT877

Data Science Capstone Project

S2 Evening 2019

Dept of Mathematics and Statistics

Contents

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General Information

Unit convenor and teaching staff
Unit convenor
Georgy Sofronov
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Contact via Emal
12 Wally's Walk, Room 535

Credit points
4

Prerequisites
(32cp in STAT or ITEC units at 800 level or above) and admission to MDataSc

Corequisites

Co-badged status
ITEC877

Unit description
This unit draws together learning in previous units into a practice-based, workplace relevant project. Students will carry out a major data analysis project making use of real-world data to provide insight into significant problems. Problems may be suggested by students, by employers or industry partners or by academic staff. All projects will involve analysis of large data sets using the techniques learned in the earlier units in the program. Students will present results in a professional manner and will manage source code and data in a way that enables and encourages reproduction of the analysis by others. The project requires an equal focus on process and the product, requiring the use of quality control and assurance methods, tools and techniques.

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:

Discuss ethical conduct and issues related to working in a professional Data Science capacity.

Reflect on the semester long project, allowing critical appraisal of the experience gained.

Express outcomes gained through written reports and professional presentation.

Carry out a significant data analysis project and report on the results and their interpretation.

Assessment Tasks

Name	Weighting	Hurdle	Due
Mid-term Report & Presentation	40%	No	Week 5
Internship Presentation	10%	No	Week 13
Internship office report	50%	No	Week 13

Mid-term Report & Presentation

Due: **Week 5**
Weighting: **40%**

A report and its presentation on your experience working on the project is evaluated by the unit convenor. The presentation is worth 10%, and the mid-term internship report 30%.

On successful completion you will be able to:

• Discuss ethical conduct and issues related to working in a professional Data Science capacity.

• Reflect on the semester long project, allowing critical appraisal of the experience gained.

• Express outcomes gained through written reports and professional presentation.

• Carry out a significant data analysis project and report on the results and their interpretation.

Internship Presentation

Due: **Week 13**
Weighting: **10%**

A 15 minute presentation with powerpoint (or related) slides, articulating experiences gained in the project or the internship (if applicable), thoughts, reflections etc.

On successful completion you will be able to:

• Discuss ethical conduct and issues related to working in a professional Data Science capacity.

• Reflect on the semester long project, allowing critical appraisal of the experience gained.

• Express outcomes gained through written reports and professional presentation.

- Carry out a significant data analysis project and report on the results and their interpretation.

Internship office report

Due: **Week 13**
Weighting: **50%**

This report is presented to both the unit convenor and the internship company (if applicable) and evaluated by the supervisor at the work place.

On successful completion you will be able to:

- Discuss ethical conduct and issues related to working in a professional Data Science capacity.
- Reflect on the semester long project, allowing critical appraisal of the experience gained.
- Express outcomes gained through written reports and professional presentation.
- Carry out a significant data analysis project and report on the results and their interpretation.

Delivery and Resources

Provided by the workplace.

Report submissions and presentations have to be submitted on ilearn.

Presentations are held in week5 and week13 in a Postgraduate workshop and schedule will be declared on ilearn.

Learning and Teaching Activities

Engagement in the workplace

This is an internship unit where at least one day per week will effectively be spent on the job - learning Data Science related skills.

Communicating with the convenor

Communicating with the convener fortnightly and conducting a presentation to the convener of the course at the end of the internship/semester.

Policies and Procedures

Macquarie University policies and procedures are accessible from Policy Central (https://staff.mq.edu.au/work/strategy-planning-and-governance/university-policies-and-procedures/policy-central). 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
- Grade Appeal Policy
- Complaint Management Procedure for Students and Members of the Public
- Special Consideration Policy *(**Note:** The Special Consideration Policy is effective from 4 December 2017 and replaces the Disruption to Studies Policy.)*

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

If you would like to see all the policies relevant to Learning and Teaching visit Policy Central (https://staff.mq.edu.au/work/strategy-planning-and-governance/university-policies-and-procedures/policy-central).

Student Code of Conduct

Macquarie University students have a responsibility to be familiar with the Student Code of Conduct: https://students.mq.edu.au/study/getting-started/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

Student Support

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

Learning Skills

Learning Skills (mq.edu.au/learningskills) provides academic writing resources and study strategies to improve your marks and take control of your study.

- Workshops
- StudyWise
- Academic Integrity Module for Students
- Ask a Learning Adviser

Student Services and Support

Students with a disability are encouraged to contact the Disability Service who can provide

appropriate help with any issues that arise during their studies.

Student Enquiries

For all student enquiries, visit Student Connect at ask.mq.edu.au

If you are a Global MBA student contact globalmba.support@mq.edu.au

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.

Graduate Capabilities

PG - Capable of Professional and Personal Judgment and Initiative

Our postgraduates will demonstrate a high standard of discernment and common sense in their professional and personal judgment. They will have the ability to make informed choices and decisions that reflect both the nature of their professional work and their personal perspectives.

This graduate capability is supported by:

Learning outcome

- Carry out a significant data analysis project and report on the results and their interpretation.

Assessment tasks

- Mid-term Report & Presentation
- Internship Presentation
- Internship office report

Learning and teaching activities

- This is an internship unit where at least one day per week will effectively be spent on the job - learning Data Science related skills.
- Communicating with the convener fortnightly and conducting a presentation to the convener of the course at the end of the internship/semester.

PG - Discipline Knowledge and Skills

Our postgraduates will be able to demonstrate a significantly enhanced depth and breadth of knowledge, scholarly understanding, and specific subject content knowledge in their chosen fields.

This graduate capability is supported by:

Learning outcome

- Discuss ethical conduct and issues related to working in a professional Data Science capacity.

Assessment tasks

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PG - Critical, Analytical and Integrative Thinking

Our postgraduates will be capable of utilising and reflecting on prior knowledge and experience, of applying higher level critical thinking skills, and of integrating and synthesising learning and knowledge from a range of sources and environments. A characteristic of this form of thinking is the generation of new, professionally oriented knowledge through personal or group-based critique of practice and theory.

This graduate capability is supported by:

Learning outcome

- Discuss ethical conduct and issues related to working in a professional Data Science capacity.

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PG - Research and Problem Solving Capability

Our postgraduates will be capable of systematic enquiry; able to use research skills to create new knowledge that can be applied to real world issues, or contribute to a field of study or practice to enhance society. They will be capable of creative questioning, problem finding and problem solving.

This graduate capability is supported by:

Learning outcomes

- Reflect on the semester long project, allowing critical appraisal of the experience gained.
- Express outcomes gained through written reports and professional presentation.

Assessment tasks

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PG - Effective Communication

Our postgraduates will be able to communicate effectively and convey their views to different social, cultural, and professional audiences. They will be able to use a variety of technologically supported media to communicate with empathy using a range of written, spoken or visual formats.

This graduate capability is supported by:

Learning outcomes

- Reflect on the semester long project, allowing critical appraisal of the experience gained.
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PG - Engaged and Responsible, Active and Ethical Citizens

Our postgraduates will be ethically aware and capable of confident transformative action in relation to their professional responsibilities and the wider community. They will have a sense of connectedness with others and country and have a sense of mutual obligation. They will be able to appreciate the impact of their professional roles for social justice and inclusion related to national and global issues

This graduate capability is supported by:

Learning outcome

- Carry out a significant data analysis project and report on the results and their interpretation.

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