RMIT UNIVERSITY

The AI/Data Science Professional

Workshop 1

What's next...

Agenda

- First hour: case studies (two cases, 15 minutes discussion in your group and 15 minutes to report for each case study)
- Second hour: assessments discussion (task 2 first, then task 1)
- Group discussion: create a meeting in your own private channel

Case Study 1

UBER EATS: delivering food while it's hot

What's next...

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UBER EATS: delivering food while it's hot

The data scientists at Uber Eats, Uber’s food-delivery app, have a fairly simple goal: getting hot food delivered quickly. Making that happen across the country, though, takes machine learning, advanced statistical modelling and staff meteorologists. In order to optimise the full delivery process, the team has to predict how every possible variable — from storms to holiday rushes — will impact traffic and cooking time.

source from 17 Data Science Applications & Examples

Discuss (15 minutes)

- What is the problem/challenge (problem definition / research question)?
- Why is it important (significance)?
- What is the AI/DS task? (see week 1 for the range of AI/DS tasks)
- What types of data do we need for the task?
- Who are the users involved in this case study?
- Would there be potential ethical issues/concerns with regards to FATE?

Case Study 2

AMAZON'S ACCENT RECOGNITION TECHNOLOGY

What's next...

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AMAZON'S ACCENT RECOGNITION

At the beginning of October 2018, Amazon was quietly issued a patent that would allow its virtual assistant Alexa to decipher a user's physical characteristics and emotional state based on their voice. Characteristics, or "voice features," like language accent, ethnic origin, emotion, gender, age, and background noise would be immediately extracted and tagged to the user's data file to help deliver more targeted advertising.

The algorithm would also consider a customer's physical location — based on their IP address, primary shipping address, and browser settings — to help determine their accent.

Discuss (10 minutes)

- Are there potential ethical concerns in relation to data privacy?
- Are there any concerns with regards to the intended use of this data and analysis?
- What rights do we have as consumers?
- Will AI models be limited if users don't want to provide data?
- Are there any other potential issues/concerns regarding FATE (Fairness, Accountability, Transparency, and Ethics)?

Assignment 1&2

What's next...

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Task 1 vs Task 2

- Task 1 (Case Study): existing systems/algorithms/features
  - See sample assignments
  - You're not allowed to use the same topics from the sample assignments
  - Case study submission (week 7)
  - Workshop: Case study presentation and peer review (week 8)

- Task 2 (Project): NEW project proposal
  - Milestone 1: initial project idea submission (week 5)
  - Milestone 2: final project and video submission (week 11)
  - Workshop: Project presentation and peer review (week 12)

- No need to be on the same topic for both tasks

Task 1

- Overview: to explore, discuss and provide a critical analysis as form of a group presentation, on transparency, explainability, and responsibility issues with regards to a chosen AI/data-driven system of the group's interest. The topic has to be approved by the tutor.
- Rubric:
  - *Report*: structure and organisation; context, analysis, and findings; creative and critical thinking.
  - *Presentation*: delivery; content and engagement; slides and video quality; **peer review**
- Process:
  - Submit report and recorded presentation by week 7.
  - During week 8 workshop, we will play recorded presentations and do peer review. You will be asked to do peer review during the workshop. Please refer to the peer review form in Canvas -> Assignments (you will find a link in the assignment description)

Task 2: initial submission

- Overview: to explore, discuss and submit an initial report on the selected topic/challenge of the group's interest. The topic has to be approved by the tutor.

- Rubric:
  - Introduction and background; potential ethical considerations; progress and plan; presentation, structure, expression, referencing; grammar and spelling

- Process:
  - Submit report by week 5.

Task 2: report and project presentation

- Overview: to explore, discuss and submit a project report (as well as a recorded video presentation) on the selected topic/challenge of the group's interest.
- Rubric:
  - *Report*: Introduction and background; significance; proposed idea/solution; methodology; research material; ethical considerations; creative and critical thinking; presentation, structure, expression, referencing; grammar and spelling
  - *Presentation*: video presentation; presentation slides; **peer review**
- Process:
  - Submit report and recorded presentation by week 11.
  - During week 12 workshop, we will play recorded presentations and do peer review. You will be asked to do peer review during the workshop. Please refer to the peer review form in Canvas -> Assignments (you will find a link in the assignment description)

Presentation and Peer Review

- Week 8 (task 1) and Week 12 (task 2). The tutor will play submitted videos.

- It is mandatory to attend these workshops as you need to do peer review during the workshops. The workshops won't be recorded.

- Provide Feedback!
  - Up to 3 strong points
  - Up to 3 weak points

Peer Review

Contributes 2pts to the Task 1 & Task 2 milestone 2 mark
Marked individually

Peer review	**2 to >1.6 Pts HD** Excellent review completed with very constructive feedback about what worked well and what could be improved.	**1.6 to >1.4 Pts D** Very good review with constructive feedback about what worked well and what could be improved.	**1.4 to >1.2 Pts C** Good review with limited feedback about what worked well and what could be improved.	**1.2 to >1.0 Pts P** Brief review but no useful feedback about what worked well and what could be improved.	**1 to >0.0 Pts Fail** No review completed or many items not completed.	**0 Pts No marks**	2 pts