THE UNIVERSITY *of* EDINBURGH
informatics

Applied Machine Learning (AML)

Class Starting at 4:10pm

Oisin Mac Aodha • Siddharth N.

Applied Machine Learning

Week 9: Recommender Systems and Neural Networks

This slides will be made available on the project website after the class.
This session will be recorded.

Overview

1) Brief discussion of coursework
2) Discussion of week 9’s topics
3) Outline your tasks this for week

https://groups.inf.ed.ac.uk/teaching/aml

Coursework Poll

Coursework General Advice

- **Read the instructions**
  - Make sure you name the submission file correctly
  - Make sure you have added any section names you were asked to
  - Make sure you use the correct template and do not edit the font or margins
  - Add your student ID, not names
  - Only 6 pages, so use the space wisely, e.g., some figures can take up a lot of space so place figures beside each other

Coursework General Advice

- Look at the example reports on the course webpage: https://groups.inf.ed.ac.uk/teaching/aml/mini-project/

- Do **not** leave the writing until the last few days
  - Writing is important, don't try to do it all at the last minute
  - We only mark the report
- Make sure your text is clear, e.g. ask a teammate to read your section
- Worth 40% of final grade

Coursework Contents

- Look at the example reports on the course webpage: https://groups.inf.ed.ac.uk/teaching/aml/mini-project

- See the Marking section on the mini-project page
  - https://groups.inf.ed.ac.uk/teaching/aml/mini-project/#marking
  - 70-100 is excellent
  - 60-69 is excellent with some minor deficiencies
  - …

Coursework Marking Rubric

- The report should contain the following in some manner:
  - description of the task ~5%
  - relevant background and related previous work ~10%
  - explanation of the significance/relevance of the objective/task ~10%
  - information on the data preparation ~10%
  - exploratory data analysis ~25%
  - description of the learning (e.g., classification) methods used ~15%
  - results and evaluation ~25%
  - conclusions ~5%

Note, this sums up to > 100% due to rounding

Coursework Feedback

- Final grade for report
- Comments justifying the marking, noting strengths and weaknesses of report

Extra Information

- **Statement of Contribution**
  - Add short description of how each member of the group contributed to the project at the end.
- **Generative AI**
  - Note that *any* use of generative AI must be explicitly acknowledged and a description of how it was used included as part of your submission.

Both of the above should go after references, and do not count towards your page limit.

Coursework Submission

- **Submission**
  - Learn -> AML -> Assessment -> AML Coursework (Main)

- We will send out instructions soon.
- Read the instructions carefully and make sure you submit correctly.
  - e.g. do not email your submission to us, we cannot accept them.
  - Submit on time to avoid penalties.
  - Don’t leave until the last minute to submit for the first time.

Coursework Submission - Dates

- Thursday 20th Nov - 12:00 PM (i.e. afternoon)

- Instructions for submission
  - Only report PDF is due on 20th Nov
  - Submit via Learn

Supplementary Material

- **You will upload your code and latex source in week 11.**
  - 27th Nov at 5pm
- Details available on the course webpage
  - https://groups.inf.ed.ac.uk/teaching/aml//submission-instructions

The sources for your code and report are not directly assessed; they just need to run and generate the results you report.

Coursework Submission - Extensions Policy

- **Extensions are not allowed** following **Rule 2** of the School of Informatics' Late Submission Rules and Penalties.
  - This is the default for group projects in SoI

"Extensions are not permitted and Extra Time Adjustments (ETA) for extensions are not permitted."

https://informatics.ed.ac.uk/taught-students/all-students/your-studies/late-coursework-extension-requests

Academic Misconduct

- Make sure you are familiar with the School's Good Scholarly Practice
- Watch the short video (~10 mins) here if unsure:
  - https://informatics.ed.ac.uk/taught-students/all-students/your-studies/academic-misconduct
- See course website for guidance on use of Generative AI (e.g. ChatGPT)
  - https://groups.inf.ed.ac.uk/teaching/aml/about/#guidance-on-the-use-of-generative-ai-

Exam

- The exam will be on campus on **Dec 11th** at 9:30am and will be **closed book**
  - No calculators allowed -- or needed
  - No notes permitted -- same as previous years
  - There are two different exam locations -- check your personal timetable

- The exam will be 2 hours in duration
- The format will be 2/3 questions as in all previous AML (INFR11211) and IAML (INFR10069/INFR11182)

Neural Network Quiz

Neural Network Demo I

https://mlu-explain.github.io/neural-networks

Neural Network Demo II

https://playground.tensorflow.org/

Note: the output node also has a bias that is not visible in the interface
https://github.com/tensorflow/playground/issues/90

Neural Network Demo III

https://cs.stanford.edu/people/karpathy/convnetjs//demo/classify2d.html

Recommender Systems Quiz

Week 9: Your tasks for this week

1) Attend and complete **Lab 4** - solutions will be online later this week
2) Watch videos for week 9 - *Ethics and Fairness* and *Further Topics*
    a) No videos for week 10
    b) Ask questions on Piazza if not clear
3) Start **Tutorial 4** which takes places next week
    a) This is a discussion based tutorial and worth attending
4) Continue working on the **coursework - due next week**