

## Applied Machine Learning (AML)

Oisin Mac Aodha • Siddharth N.

# Applied Machine Learning

**Exam Tips** 

#### Exam Venue

Two venues

Thurs 11th Dec 9:30 - 11:30 am

Venue

This exam is split over multiple locations by surname (please check your personalised timetable):

Patersons Land Room G1 (Enter via Holyrood Road/lower ground floor, wait in social/study space)

Date: Thursday, 11th December 2025

Time: 9:30 a.m. to 11:30 a.m.

Duration: 2:00

St Leonards Land Gym 3 (Enter via Viewcraig Gardens)

Date: Thursday, 11th December 2025

Time: 9:30 a.m. to 11:30 a.m.

Duration: 2:00

The venues are across the road from each other

https://www.accessable.co.uk/the-university-of-edinburgh/holyrood/access-guides/paterson-s-land https://www.accessable.co.uk/the-university-of-edinburgh/holyrood/access-guides/st-leonard-s-land

# Past Papers

- Past exam papers are available here:
  <a href="https://exampapers.ed.ac.uk">https://exampapers.ed.ac.uk</a>
- We do not provide past exam solutions:
  <a href="https://www.inf.ed.ac.uk/teaching/courses/iaml/aml/exam">https://www.inf.ed.ac.uk/teaching/courses/iaml/aml/exam</a>
- Can also look at exam papers for IAML INFR11182 (same as INFR10069) -- except for Dec 2020 and 2021 which were open book and thus not relevant
- Note there is also a semester two IAML instance called INFD11005 -that is not relevant

# Past Papers - Irrelevant Material

 There are some topics that were on IAML (INFR10069/INFR11182) that are **not** covered in AML e.g.

#### Out of Scope Material from IAML

- Nearest Neighbours
- Support Vector Machines
- Gaussian Mixture Models

#### **New Material in AML**

- Model Selection
- Non-Linear Dimensionality Reduction
- Recommender Systems
- Further Topics
- Ethics

#### **Past Solutions**

- We do not provide past exam solutions
- However, we have added sample solutions for two questions here to give you an idea of what level of detail is expected:

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

#### **Example Solutions**

- Past exam solutions for all papers are not available.
- However, you can find example solutions for two questions from a previous IAML exam here.

#### **Exam Discussion on Piazza**

- We (i.e. course organisers) will not provide solutions on Piazza either
- However, you can discuss among yourselves (also on Piazza)
  - But we will not give tips/feedback on exam question solutions

# Exam Format - Setup

- Exam is worth 60% of final mark
- It is 2 hours in duration
- You need to answer 2 questions out of a possible 3
- The marks on the exam paper add up to 50, which is doubled to get your percentage

- Important:
  - "Answer any TWO of the three questions. If more than two questions are answered, only QUESTION 1 and QUESTION 2 will be marked."

### **Exam Format - Materials**

- This is a closed book exam
  - Thus no notes are permitted, i.e., you cannot bring notes into the exam hall

- Calculators are not allowed as they are not needed
  - The calculations you may need to do will be less time consuming than the tutorials

 The exam INFR10069 (same as INFR11182) in 2020 and 2021 were "open book" - as a result they are less relevant

#### Exam Format - Answer Booklet

- Bring backup pencils / pens
- You do not bring paper, blank answer booklets will be provided (see example page on the right)
  - There is lots of space in the answer booklet
  - You can request extra pages if needed, but this will likely not be necessary

#### Example page from the answer booklet

FR11211	Do not write above this line	11/12/2025
l.(a).i		

- Read the questions first to decide which 2 of the 3 you will do
- Do not spend too much time on one part if stuck, move on, and come back later
- Some questions worth more marks than others
  - Use this as guidance to allocate your time appropriately

- Read the question carefully and answer all that is asked
- i. In general, what is the difference between a generative and discriminative classifier? Name one example of each type of classifier and briefly describe a situation where it might be better to use a discriminative classifier instead of a generative classifier.

[3 marks]

Read the question carefully and answer all that is asked, and no more

i. In general, what is the difference between a generative and discriminative classifier? Name one example of each type of classifier and briefly describe a situation where it might be better to use a discriminative classifier instead of a generative classifier.

[3 marks]

#### This question is asking **three** things:

- Difference between discriminative and generative
- Name one of each
- Describe where discriminative could be better

There will be marks given for each part!

Question from AML 2023 Q3 (a) i

- Make your answers as clear as possible, i.e. try to write clearly and minimize scribbles
  - Don't waste time making things very pretty
- There is an answer booklet that has blank space for each answer. If possible, try to stick to the space allocated for each question
  - If you run out of space, there will be extra blank pages available
- Show your workings
  - To give you partial credit we need to see how you arrived at a solution

#### How to Revise

- Rewatch the lecture videos and slides
- Attempt past exam questions yourself before looking at answers others share
- Do the tutorial questions and look at the solutions
- Look at other material online if you find that helpful
  - However, the material we provide is sufficient
  - Be careful about about LLM generated solutions --

Consider forming study groups - e.g., with your coursework teammates

## Exam FAQ

- Q: Are we expected to do complex derivations in the exam?
  - A: AML is not a deep mathematical introduction to machine learning. The past exam papers show that we typically do not ask these types of questions in the exam.
- Q: Will I have to do lots of calculations like in the tutorials?
  - A: You are under more time constraints during the exam, and as a result, would not be expected to perform lots of time-consuming calculations during the exam.
- Q: Will there be a questions on topic X, Y, or Z in the exam?
  - A: Generally, anything covered during the course (i.e. including tutorials etc.) are in scope for the exam. We will not give specific hints regarding the exam content.

## Exam FAQ

- Q: Will I have to write any code during the exam?
  - A: No, you will not be writing code. They are all "pen and paper" questions.
- Q: If I am asked to sketch something, how detailed does my drawing need to be?
  - A: Do not waste time making making your sketch unnecessarily "pretty".
    The important thing is that it demonstrates the important information.
- Q: What does it mean to "show your workings" or "show your intermediate steps"?
  - A: For a question that involves a numerical answer, it is important to show how you got to your final answer, i.e., do not just write down the answer directly show the intermediate steps that got you there. This will enable us to give marks for attempting even if the final answer is wrong.

# Good Luck!