# Deep Learning 1

2025-2026 – Pascal Mettes

## Lecture 13

*Q&A*

# Topics of today

Reflection on the course

Exam

AMA

# Reflections on the course

# Story of DL1

| Lecture | Title | Lecture | Title |
|---|---|---|---|
| 1 | Intro and history of deep learning | 2 | AutoDiff |
| 3 | Deep learning optimization I | 4 | Deep learning optimization II |
| 5 | Convolutional deep learning | 6 | Attention-based deep learning |
| 7 | Graph deep learning | 8 | From supervised to unsupervised deep learning |
| 9 | Multi-modal deep learning | 10 | Generative deep learning |
| 11 | What doesn't work in deep learning | 12 | Non-Euclidean deep learning |
| 13 | Q&A | 14 | Deep learning for videos |

# My goals at the start (from lecture 1)

Provide an intuitive foundation for understanding deep learning.

Challenge you to dive into the topic and learning by interacting and doing.

Give you the best starting point for following courses and the thesis.

Look at deep learning critically and understand what works and what doesn't.

# Things I did on purpose in the lectures

Notation is all over the place.

Intuition first.

I am not the only one talking.

I am not just teaching a set of building blocks.

# On the practicals

Deliberate gap between high-level lectures and detailed assignments.

Not merely applying what is taught in the lectures.

Requires some independent reading and online discovery.

*Does DL1 give enough "reward" (30%) to assignments given the amount of time needed to finish them?*

# Exam

# Things to consider

Exam will be about content as discussed in lectures and practicals.

Exam will not cover reading materials outside the lecture content.

Exam is closed book. No need for calculators, no cheat sheets. Where needed, equations or context will be provided for individual questions.

# Types of exam questions

A mix of:

- Deep learning knowledge(e.g., 3 advantages of A over B).

- Mathematical grounding (e.g., extend formulation A to incorporat B).

- Applying deep learning in a new context.

# Grading

Bad news: ESC is closed on the day of the exam, I can only hand in the exams for scanning on the 22nd.

I want to have the exam graded before Christmas, but this is dependent on fast scanning at ESC. We will do our best.

Errors in grading can occur. We will set up a walk-in moment in January to fix potential grading mistakes.

Let's go through the old exams

AMA