

Seminar

Advanced Deep Learning

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Machine Learning Lab
University of Freiburg

Today's class



- Overview of seminar & organizational matters
- Brief round of introductions
- Introduction to seminar topics & papers
- Tips for giving a good presentation

Overview of the seminar

Seminar

- Open to BSc and MSc students
- Worth 4 ECTS points

Meeting times

- Weekly, Tuesday 14:15-15:45
- 7 slots after today: May 15, May 22 (Pfingstpause), May 29, June 5, June 12, June 19, 26, July 3

Mechanics

- We discuss chapters from the deep learning book and research papers
- You read each chapter/paper that is presented
- You present one chapter/paper and lead the discussion for it

Your part in the course

For one paper:

- Understand it **in detail**
- Present the paper/chapter and lead the discussion;
receive anonymous feedback from your peers right after class
- End of term: write a report about the paper/chapter or a related topic

For each paper/chapter being presented:

- Read it and submit a **brief summary** (1-2 paragraphs) in plain text via ILIAS
- Formulate 1-3 questions and put these in the Google doc we provide
- Attend the presentation
- Give anonymous constructive feedback to the presenter(s) right after class
- Participate in a **lively discussion** about the paper

Warning:

- This course will be more work than a standard block seminar
- But you'll also get more out of it

In detail: preparation for “your” paper

Understand it **in detail**

- Usually requires reading up on some background material
- It can often help to download the paper’s code and try it out

Plan your presentation (it should take 20-25 minutes)

- What you will present (including background from other papers!)
- What you will skip and why
- Outline: **hierarchical** bullet points, with time budget for each point
- Optional 1:
 - Meet with one of your peers & discuss outline / draft presentation
- Optional 2: get feedback from PhD student in charge of the paper
 - Send slides by Friday noon if you want feedback before Monday
 - Meet to discuss the presentation & then **adjust it**

Practice, practice, practice!

In detail: more about “your paper”

Present the paper and lead the discussion

Open scientific **discussion**

- Strengths & weaknesses of the paper
 - Typically not everything is perfect
- Relation to other papers we covered
- Interesting future work

Write a **report** about the paper or a related topic

- In LaTeX, 2-4 pages

In detail: preparation for other papers

- Brief paper summary (1-2 paragraphs)
 - Main contributions
 - **In your own words**, non-specialized language
 - Purpose: learn to **concisely & accurately summarize** work that you don't understand in every detail
- 1-3 questions
 - E.g., about
 - something you found unclear
 - how the work relates to something else we covered before
 - any potential problems you noticed
 - Purpose: set up our discussion about the paper

We accept/reject summaries & questions

- Max. 20% missed or rejected summaries, or you won't pass

What you'll learn in this course

Research skills

- Reading and understanding a specialized research paper
- Exploring the literature for related work & background material
- Assessing strengths & weaknesses of research papers
- Academic writing

Soft-skills

- Giving a good oral presentation
- Active participation in a research discussion
- Giving constructive feedback
- Receiving feedback & using it to improve shortcomings
- Communication skills in English

The next steps

TODO after this class:

- Decide whether you would like to take the class
 - There are only 14 slots, and the examination office decides
- Email the following to Aaron (kleinaa@cs.uni-freiburg.de) by next Monday, 2pm
 - A ranked list of 5 papers you're interested in presenting and **why**
 - Please note that the slots for the papers are fixed already
- We will assign papers on Monday
- Read the papers for first session (May 15; see website)

Questions about the mechanics?

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