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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