Advanced Deep Learning 2022

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Advanced Deep Learning

https://kurser.ku.dk/course/ndab21009u/2021-2022

- Neural network techniques and review
- CNNs, U-Nets
- Recurrent models and time series
- Representation and adversarial learning
- Interpretability, transparency, and trustworthiness
- Best practices

MSc *and* BSc course - different backgrounds but we assume you all have had ML / ML A equivalent

Teachers

Lectures:

- Anders Søgaard (soegaard@di.ku.dk)
- Stefan Sommer (sommer@di.ku.dk, course responsible)

TAs:

- Marcus Teller, Lars Kæraa Lücke, Shakir Yousefi, Thomas Brun Lau Christensen, Changsheng Zhou.

Tentative course plan

https://absalon.ku.dk/courses/56618/pages/tentative-course-plan

Schedule and books

- Monday:
  - lectures: 13:15-14:00 (Aud 1)
  - exercise classes: kl 14:15-16:00
- Wednesday:
  - lectures: 10:15-12:00 (Aud 3)
  - exercise classes: kl 13:15-16:00

Literature:

- d2l: Dive into Deep Learning https://d2l.ai/
- Explainable Natural Language Processing (freely available pdf)
- papers and additional reading material

also relevant: Deep Learning https://www.deeplearningbook.org/

Forum and feedback

- Please ask:
  - in the TA sessions
  - on the Absalon forum
    - all questions
    - including programming related questions (don’t get stuck with syntax problems)

- Please let us know what we can improve
  - any feedback is *very* welcome

Exam

Continuous assessment of 4 written assignments (all to be completed completely individually).

Please read carefully what individual means in the document at Absalon.

All assignments must be passed. The final grade is based on an overall assessment of the assignments.

Assignment 1 is available from today.

Exam

Exam:

Continuous assessment of 4 written assignments, all to be completed individually. All assignments must be passed. The final grade is based on an overall assessment of the assignments. Important - as all assignments in the course are individual - please pay careful attention to the following points:

- *You are not allowed to collaborate with anyone on the assignment and you are not allowed to communicate your solutions to other students.*
- *You must not ask for help from anyone except the teachers and TAs on the course. On the other hand, we encourage you to use the exercise classes and the Absalon forum to get help. The exercise sessions exist to help you with the assignments, and you are welcome to ask any questions related to the teaching material and the assignments on the forum.*
- *If your solution contains material from other sources than the assignment text, you must cite the source of the material and any changes you have made. This also applies to material from textbooks, Absalon, etc.*
- *If your solution uses methods or notation which are not used in the course material, you must specify where you have found the method or notation.*
- *If you are in doubt about plagiarism or citation rules, please ask the teachers or TAs.*

Please be very observant of these rules. We do not want any plagiarism cases, both for your and our sake.

Elective courses on 3rd year + Matchmaking

Meeting for all 2nd year students:

- May 10th, 5pm
- Studie- og Karrierevejledningen + Studieledere
- https://kunet.ku.dk/nyhedsrum/arrangementer/studiearrangementer/Sider/Bliv-klogere-p%C3%A5-din-valgfrihed-p%C3%A5-dit-3.-studie%C3%A5r-SCI.aspx

Matchmaking - meet companies to collaborate with on your next study project

- Biotechnology – smart solutions in Science & Health: Novo Nordisk, Nordic Bioscience, Octarine Bio og Dianox
- 29. april kl. 12.30-16 on zoom
- https://kunet.ku.dk/nyhedsrum/arrangementer/studiearrangementer/sider/matchmaking-biotechnology-smart-solutions-in-science-and-health.aspx

DIKU Bits + TA positions

DIKUBits talk tomorrow:

- Learning Explainable Models of Behaviour
  Tuesday, April 26 from 12:15-13:00 in Small UP1.

Science Innovation Hub talk

- Wednesday June 1 at 12:00 (right after the lecture)

Please consider applying for a TA position in block 1 + 2, for example MASD (Mathematical Analysis and Probability Theory for Computer Scientists)
https://employment.ku.dk/teaching-positions/?show=156319

Questions?