

◆ Goals:

- A deeper explanation of methods and models towards understanding principles,
- Working with the mathematical / statistical tools needed,
- Practical experience with models and methods, insights.

◆ **14 Lectures.** We start from the inspiration of neural networks by neurons in the brain and discuss the surprising recent discovery that huge models can learn well without overfitting. We then go through common building blocks, their principles and functions to optimization methods, regularization, and initialization. And to more advanced topics: adaptive optimization methods, adversarial attacks, representation learning, generative models, recurrent networks.

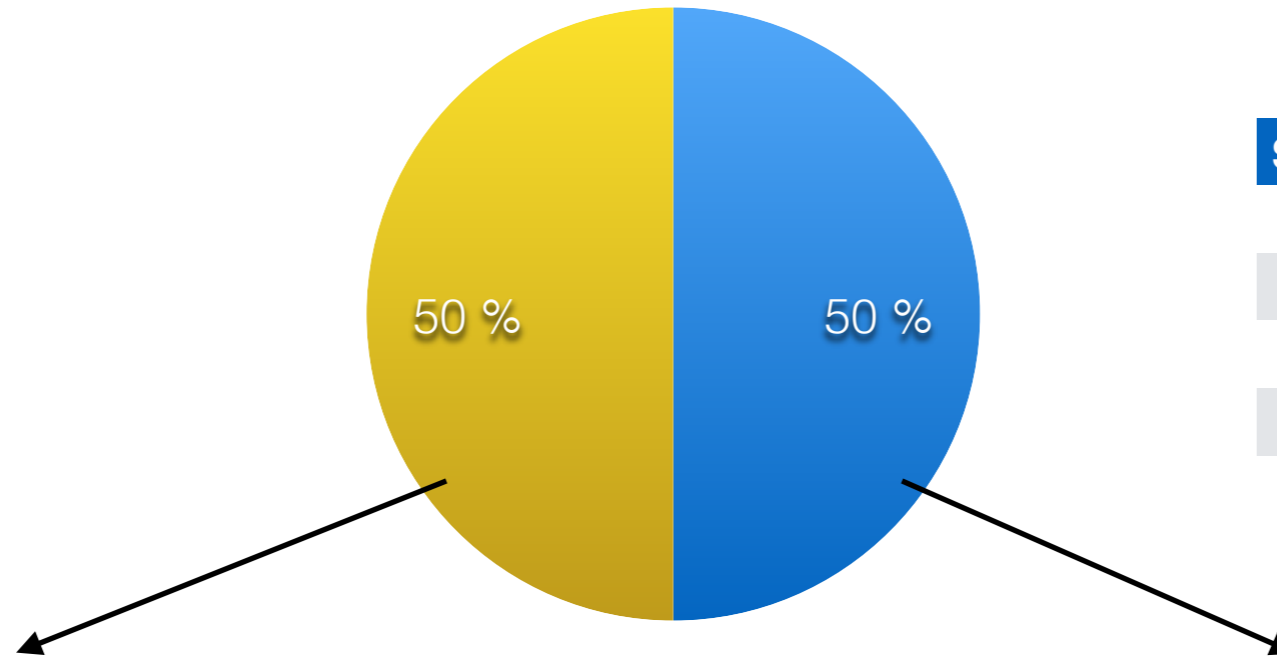
◆ **6 practical labs:** implementation of selected methods (Python/PyTorch) as homework, submission of results.

◆ **7 seminars:** solving theoretical assignments (published in advance). You are expected to present/discuss solutions.

◆ **Study plan expectations:** 6 credits = 150 hours

- about 6 hours/week working independently

Grade Structure



Your grade:

Score %	Grade
50-59	E
60-69	D
70-89	C
80-89	B
90-100	A

◆ Labs (programming homework):

- every two weeks
- graded during semester
7 labs = 65 points = 50%
- not mandatory
- required minimum: half

◆ Theoretical assignments:

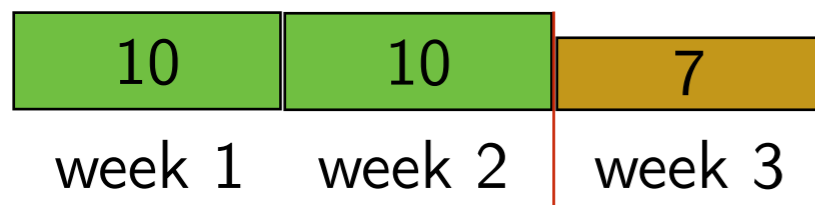
- discussed in class
- not graded during semester

◆ Written exam

- required minimum: half

◆ Next week is a seminar

◆ Deadline policy for labs:



hard deadline, submissions closed

teachers start correcting, feedback in BRUTE, no resubmission