INTRODUCTION TO DEEP LEARNING FOR COMPUTER VISION

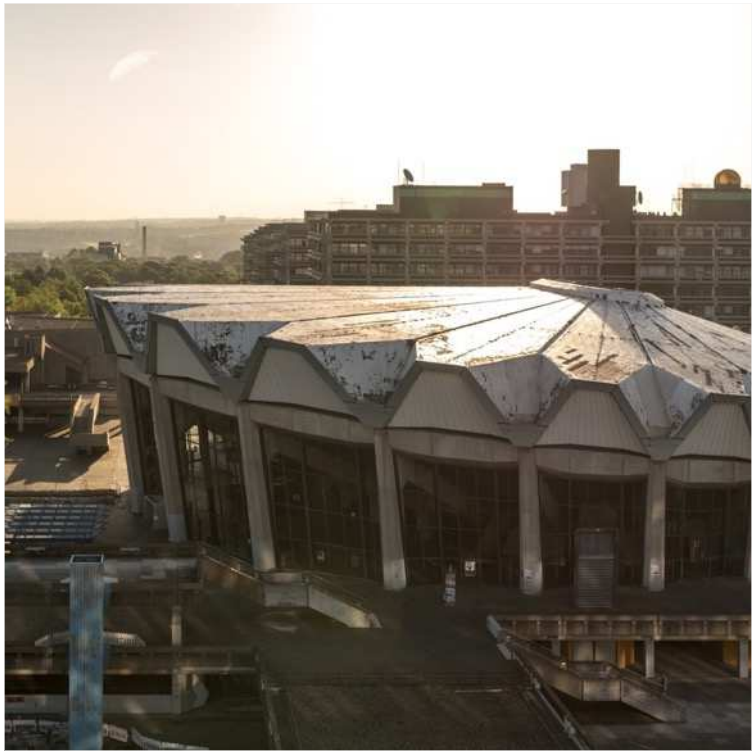
- PREPARATORY MEETING

SEBASTIAN HOUBEN

Schedule

Today

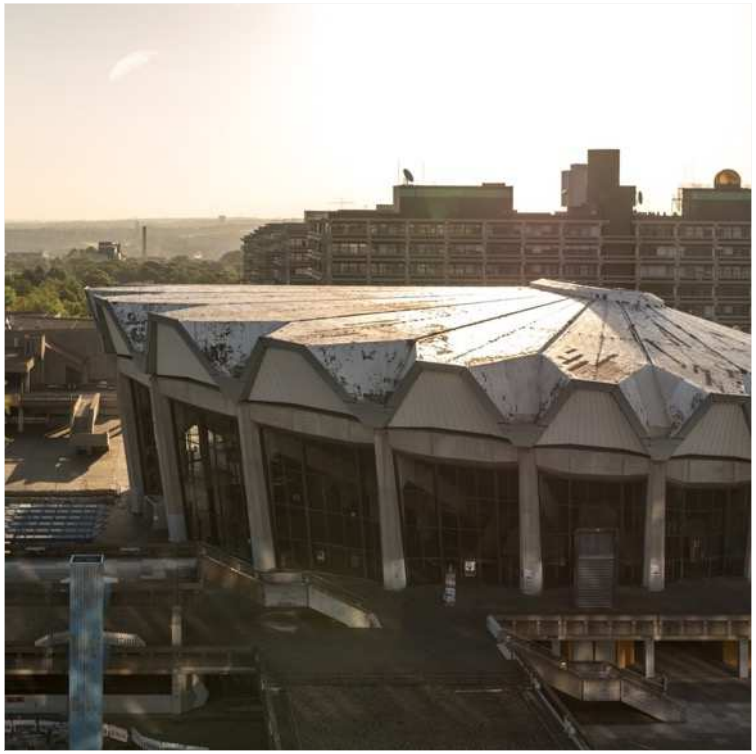
- Agenda
- Coursework
- Using your own computer



Agenda

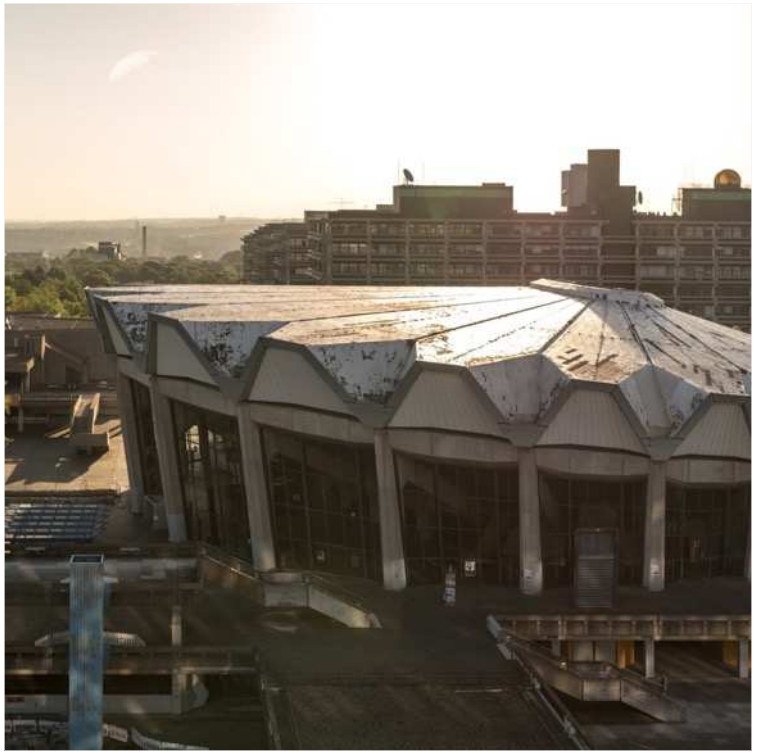
- Day 1: Introductory Computer Vision & Python
- Day 2: Pre-2012 Computer Vision
- Day 3: Post-2012 Computer Vision
- Day 4: Nuts and Bolts of Deep Learning
- Day 5: Catchup Day (Final Coursework)

- **Groupwork in groups of 2 students is encouraged!**



Schedule

- Meet each day at 10.15am in NA 04 / 494
- Introduction into the day‘s topic (30 – 90 minutes)
- Then, supervised exercises
  - Do ask your supervisor if you get stuck
  - Save your work regularly
    (your grades partly are based on your code)
  - Programs may be time-consuming
    - Save important results and re-use them if needed



Coursework / Grading

After the course

- Submit (some of) the source code of your work
  - Care for readability
  - Comment your code
- Submit a report about
  - What you did
    - Briefly explain what the problems were about
  - What choices you made
    - Model design
    - Training / test setup
  - What results you obtained
    - Chosen measures
    - ... and their quantitative values
    - visualizations

Coursework / Grading

- Submit a report about
  - What you did
    - Briefly explain what the problems were about
  - What choices you made
    - Model design
    - Training / test setup
  - What results you obtained
    - Chosen measures
    - ... and their quantitative values
    - visualizations
- Keep the report at 3 to 6 pages
  - Regarding text, visualizations do not count here (but are important as well)

QUESTIONS?

OTHERWISE, SETUP TIME.

Personal setup

- Python 3.6
- Anaconda 4.4.0 (or higher)
  - contains SciPiy 0.19.0
  - conda install pip (for upgrading)
- Tensorflow 1.3.0 (or higher)
  - pip install tensorflow
- OpenCV 3.3.0 (or higher)
  - pip install opencv-python
- pip install joblib

Personal setup (faster)

- pip install tensorflow-gpu
  - Python: import tensorflow
  - Error message tells you which version of cuDNN you need
- Install CUDA and cuDNN in the required version (e.g., CUDA 8 and cuDNN 6, but version requirements change a lot)
- Reset your PATH variable

QUESTIONS?

SEE YOU AT THE COURSE.