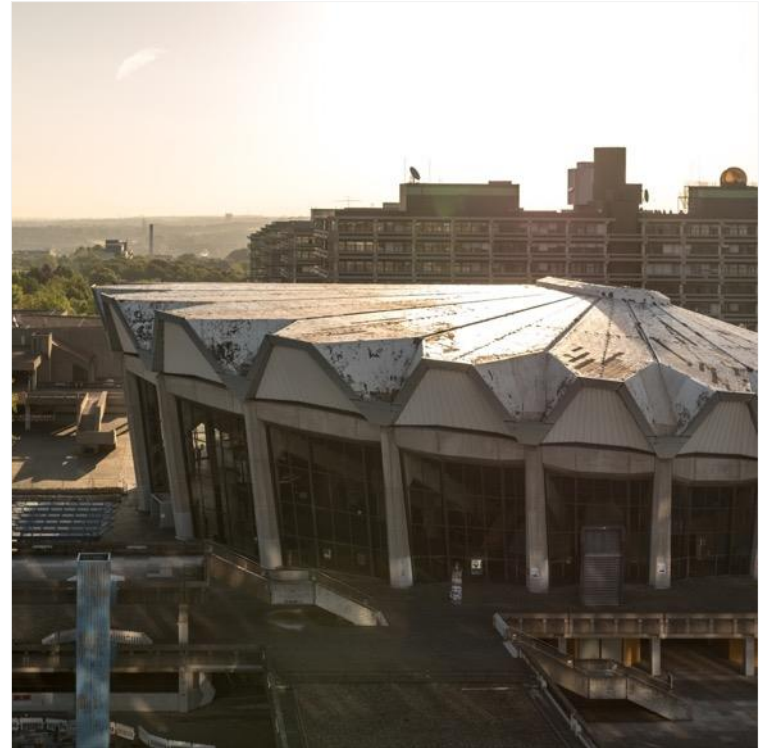# INTRODUCTION TO DEEP LEARNING FOR COMPUTER VISION
- PREPARATORY MEETING

SEBASTIAN HOUBEN

Schedule

Today

- Agenda
- Coursework
- Using your own computer

INTRODUCTION TO DEEP LEARNING FOR COMPUTER VISION

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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
2-3 students is encouraged!**

INTRODUCTION TO DEEP LEARNING FOR COMPUTER VISION
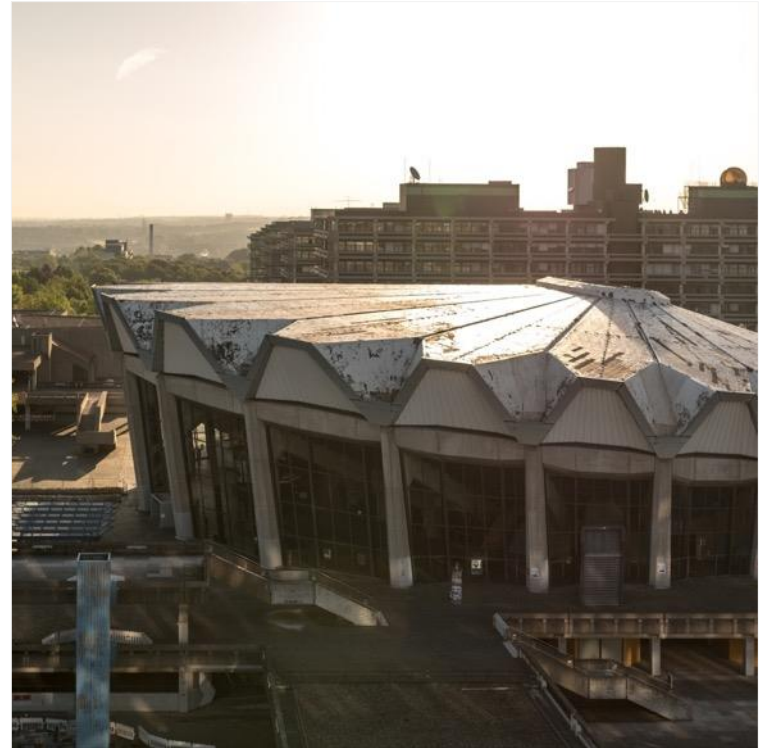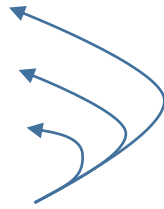
Schedule

- Meet each day at 10 am in ID 03 / 121

- 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

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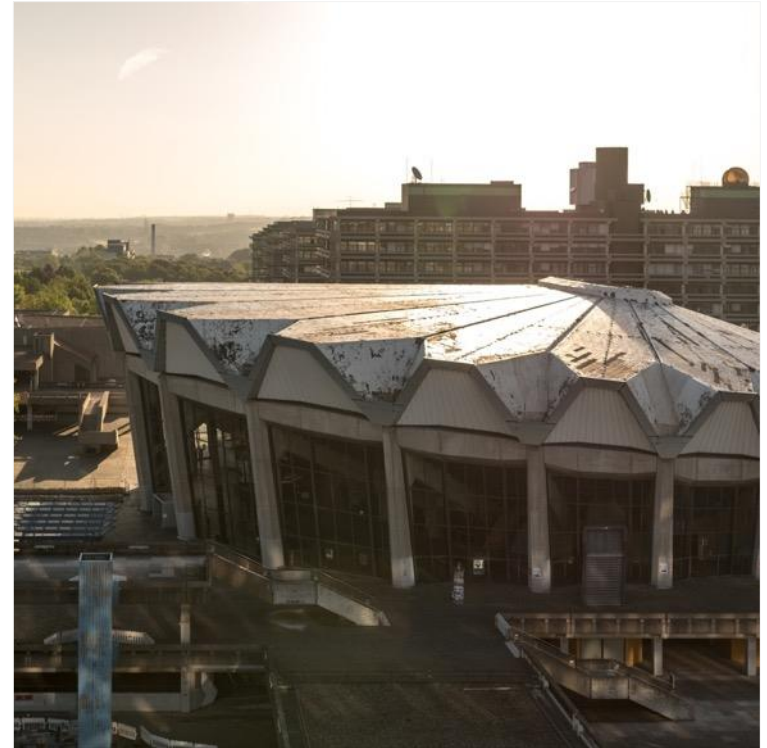
Coursework / Grading

After the course

- Submit (some of) the <u>source code</u> of your work

    - Care for readability

    - Comment your code

- Submit <u>a report</u> 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

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Coursework / Grading

- Submit <u>a report</u> 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 5 pages
  - Regarding text, visualizations do not count here (but are important as well)

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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

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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**

- **Try**
  ```
  >>> import tensorflow as tf
  >>> hello = tf.constant('Hello, TensorFlow!')
  >>> sess = tf.Session()
  >>> print(sess.run(hello))
  ```

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QUESTIONS?

SEE YOU AT THE COURSE.