Project ideas

Task:

- Working with images using tensorflow with a wrapper library (keras or tf.learn)
- Show own examples on some data sets, evaluation, discussion etc.

Requirements:

- Create jupyter notebook
- Present results

Submission:

- Report in the form of a *jupyter notebook* (source code + HTML-version)
- Should inherit code and explanations of our work (external images can be added)
- Jupyter notebook needs to run on the lecturers pc

Report content:

1. Overview and background
2. Relevant literature and other sources you used
3. Experiments e.g. using public domain data sets or own data sets
4. Reproducible and well-documented implementation including information about used libraries/tools
5. Use jupyter notebook in a way to build your source code of small snippets with text and images in between
6. Visualize results in tensorboard (loss, accuracy, model, . . .)
7. Discussion

Presentation:

- 15 minute limit per group
- Can use jupiter notebook or slides
- Mixture of presentation and demo very welcomed
- Students should be able to understand presentation
- Explain fundamentals not covered in our course

Ideas:

1. Multi-classification with a keras cnn implementation to detect each of us by webcam using opencv.
2. Binary person-classification with a keras cnn implementation using coco-dataset in comparison to own datasets.
3. Combining a keras cnn implementation with tensorflow object detection api
4. Same tasks as above with low-level tensorflow implementation