Homework Instructions - Computer Vision - Fall 2020

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1 General

In this class there will be several assignments. Each assignment will contain a `hw*.ipynb` ipython notebook file that will guide you through the homework. This file will ask you to code up functions in other `*.py` files and may ask you to fill in short answers or equations in the ipython notebook. All the instructions necessary for the homework are contained in these `hw*.ipynb` files.

You will need to score **at least 50%** in the homework, to be able to sit at the exam. Each homework has **equal weight**. If you fail at the homework, you will have to retake the course next year.

2 Submission

Use the moodle system to upload your homework (`moodle.jacobs-university.de`). The system will shut down at the deadline and homework will **not** be accepted at a later time. No other form of submission is allowed. Please upload one single zip file, with a `pdf` file which can guide the instructors through your work (generally, the `pdf` file exported from your `ipynb` file), plus the various Python files, images generated, and the original `ipynb` file.

3 Plagiarism

In case of plagiarism, the full homework will be graded 0 points, and the case will be referred to academic services and, when appropriate, to the Academic Integrity Committee.

4 Set-up and work

Install Python version 3.5 or higher. Use of Ubuntu is recommended. Instructions can be found for example here. For Windows users, you can use Anaconda. There is no guarantee however that everything will work smoothly.

Virtual environment

You can use a virtual environment for each homework. This will allow you to have a working environment with all the package dependencies within the repository of your homework, without messing up your work environment in other repositories. To set up a virtual environment with name .env, run the following inside your homework directory (ex: inside cv/hw1):

```
sudo pip install virtualenv        # You will need to do this only once
virtualenv -p python3 .env         # Creates a virtual environment with python3
source .env/bin/activate           # Activate the virtual environment
pip install -r requirements.txt    # Install all the dependencies
# Work on the assignement for a while...
deactivate                         # Exit the virtual environment when you're done
```

Note that every time you want to work on the assignment, you should run `source .env/bin/activate` (from within your assignment folder) to re-activate the virtual environment, and deactivate again whenever you are done.

Jupyter notebooks

In your assignment repository, start the notebook with the `jupyter notebook` command. You might have issues if you are in a virtual environment, as the notebook might not recognize your virtual environment and might not find the kernel located in .env to execute code. In this case, refer to this page and do the following within your virtual environment: `python -m ipykernel install --user --name=my-virtualenv-name`

When working with a Jupyter notebook, you can edit the `*.py` files either in the Jupyter interface (in your browser) or with your favorite editor (vim, Atom...). Whenever you save a `*.py` file, the notebook will reload their content directly.