

## Homework guidelines Computer vision EE 046746

Spring 2021

To get the most out of the course assignments, **read the exercises carefully**, and make sure you understand the tasks.

In each HW you are required to submit a report (PDF only, and not handwritten) with the code. The report should include an explanation of your solution and how it was run, answers to questions if there were, conclusions and visual results. This report is a meaningful part of the HW assignment.

Unless you are explicitly required to implement certain functions or algorithms, you are welcome to use external sources that are published in homework/tutorial/lectures or others you find. Remember to make fair use of these sources and quote accordingly (including code). The assignments are gradual in each HW and through the course, and you may use the functions that you wrote earlier.

### Code guidelines:

1. Keep your code neat, simple and effective.
2. Document your code (description of inputs, outputs, and code functionality if it is non-obvious).
3. Choose meaningful variable names rather than using `i`, `temp`, `ii`, `j`, `array` etc.....
4. Ensure orderly and proper use of environment variables, local variables, and efficient memory management.
5. Avoid using hardcoded numbers in code.
6. For uploading/saving files, avoid using absolute paths, use only relative paths. You can assume the files from the HW will be extracted to the base folder of your zipped submission.
7. Before submission, make sure you upload working code. The code should run on every computer and require no special preparation.
  - a. If using jupyter, resetting the kernel and the environment variables, before a final test of the code, can help you find open holes that may be left behind in your code... For the deep learning parts, you are only allowed to use PyTorch, and your code should run on GPU and CPU as well (without any manual modification, that is, follow the guidelines of defining a device at the beginning of your code). Please upload the last save state of your notebook that includes the last run results.
  - b. If you are using Google colab to run your notebook, please use import flags to test whether you are in a colab context and change the paths accordingly.
  - c. If you wrote the code in `.py` files, a file called `main.py` should be included. Make sure running it will replicate all required experiments. You may also add instructions on running and parameters / flags.

### Code of Honor:

We wish to avoid dealing with copied homework. However, we will not hesitate to take serious actions against students that are caught with violations of the Honor Code. Note that

in this course, it is rather easy to detect similar submissions, as most of them require your "personal" touch.

#### Late submissions:

Up to 3 days -15%, up to 1 week: -30%. **Assignments submitted later than 1 week will receive a grade of zero.**

Students who have been on Milluim can get an extension equivalent to the number of Milluim days (per Technion guidelines).

#### Appeals:

Appeals to the HW grader are allowed for one week from publication of the grades. Appeals will be made via email, and as in exams, the grader will check the submission again and may also reduce points if it is appropriate.

#### For submission:

Submission only in pairs, on the course website (Moodle).

You should submit two separated files:

1. A compressed `.zip` file, with the name: `ee046746_hwX_id1_id2.zip`, which contains the followings:
  - a. A folder named `code` with all the code files inside (`.py` or `.ipynb` ONLY!). It is advisable to separate into folders, according to the parts of the exercise (e.g. Part A, Part B).
  - b. A folder named `data`. This folder should include a folder named `my_data` with the files needed to run the code (e.g., images, data files) which are your own. There is no need to add the `data` you are supplied (if you are supplied with such folder) with. Make sure you load files in your code with a path relative to the code folder and not absolute paths.
  - c. A folder named `output` with all the output files you are requested throughout the assignment. Use this folder if there are visual results that are not in the report or for output videos/files which are not required to run the code.
2. A report file with the name `ee046746_hwX_id1_id2.pdf`, see guidelines below.

**No file type other than .py, .ipynb and .pdf will be accepted. Hand-written reports will not be checked.**

#### Report File (PDF) General Guidelines

1. The summary should include an explanation of the exercise and how it was run, answers to questions if there were, conclusions and visual results.
2. We expect on-point answers, but this does not contradict the fact that you have to explain your steps and the algorithm you use.
3. This is an advanced course, and thus we expect to see a report with analysis of the results. This analysis should include explanations, and show that you understand what you have implemented. You should also refer to the visual results or files you have been supplied with. Answers like "one can see that the solution is good/nice/works..." are not enough without explaining.
4. Try to keep your explanations brief and to the point. Purposely looking for ways to make the text look long may result in taking off points.

5. Please be organized and refer to each section separately, making your report easy-to-read. In sections where you are required to implement code, please provide a simple description of the algorithm. This is meant to show us the way you came up with the solution. Also, do not forget to explain how you dealt with extreme or edge cases.
6. If you perform pre-processing of any kind, you need to explain it.
7. We do not limit the length of the report, so you can (and should!) add the visual results to the report. Please make sure the visual results are easy to notice for human eyes (e.g., do not put dark points on dark objects).

Finally, we ask you to understand that these guidelines are not meant to make your life harder (trust us, we know that a student's life in the Techion is not easy). They are meant to hone your writing/coding/problem solving skills (and also to allow easy grading so you can get the grades ASAP).

Good luck,

The staff