CV1 Part1 Lab Exercises Introduction

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Overview

The first part of the course includes 4 lab Jupyter NoteBooks:

1) Introductory exercises
2) Geometric Transformations
3) Basic Image Processing
4) Edge Detection

The labs contain theoretical as well as programming parts, and are aimed at providing you a first hand experience of applying computer vision algorithms. The programming part is based on Python.

Some exercises will be graded.

Lab Environment

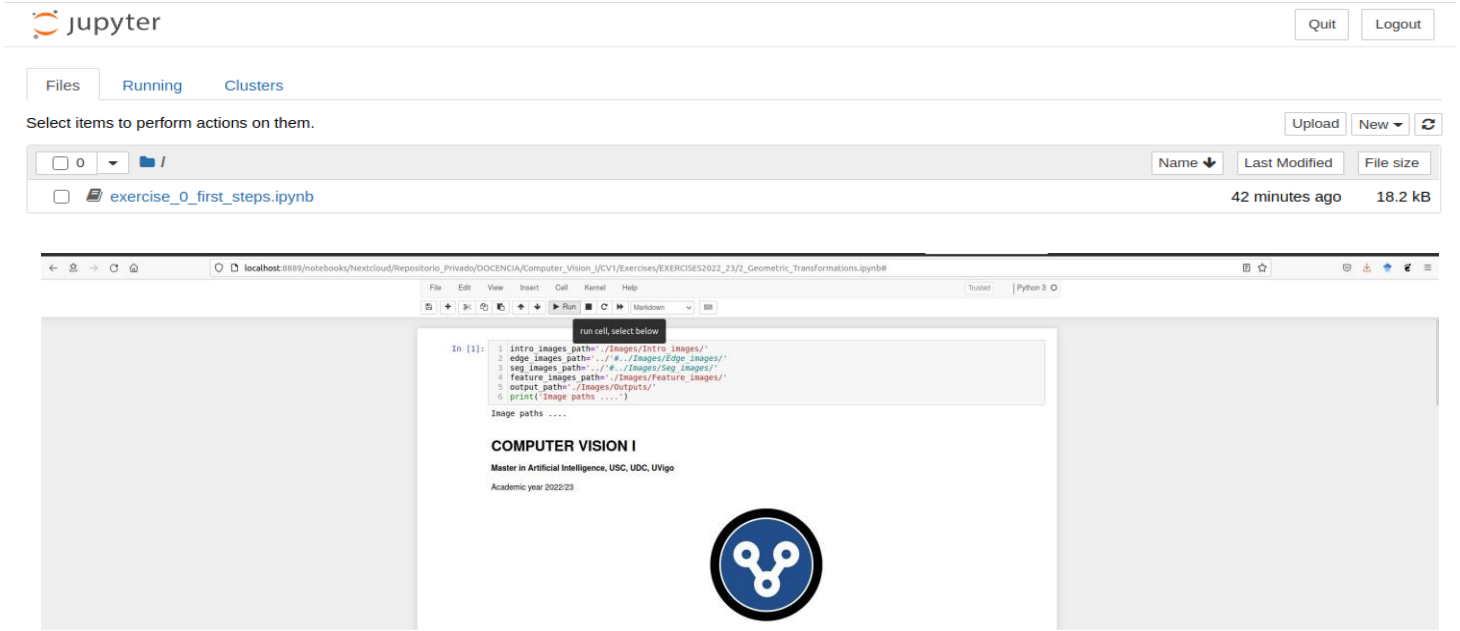
The lab exercises are based on Python, and require certain packages (e.g. numpy, matplotlib, opencv).

Anaconda: Python distribution that contains a package and environment manager:
- To create, activate and update environments with different versions of Python and/or packages installed in them.
- To install IDEs: Spyder, Jupyter Notebook.
- It is free and easy to install: https://docs.anaconda.com/anaconda/

You should create an environment with the last compatible and available (platform dependent) python and OpenCV packages.

Running Jupyter Notebook

The code in Jupyter Notebooks are split into differents “cells”. You can run the code in a particular “cell” by clicking on the cell, and pressing the “Run” button.



Working on your laptop

For the first exercises, you will need the following packages: Jupyter notebook, Numpy, Matplotlib, and OpenCV-Python.
-First create an environment (e.g. cv1, with python 3.8) where all the packages will be installed.
-You can then activate the environment using: conda activate cv1

Note: You always need to activate the conda environment before installing necessary packages or running code.

Handing in Assignments

Each student has to upload a zip file using the corresponding tool (Handing in assignment) of the virtual classroom. The zip must include:

- The Jupyter Notebook with code, comments, and intermediate (if relevant) and final results (showing how the code works).
- A pdf (or html) file of the notebook.
- All the necessary files to run the code.