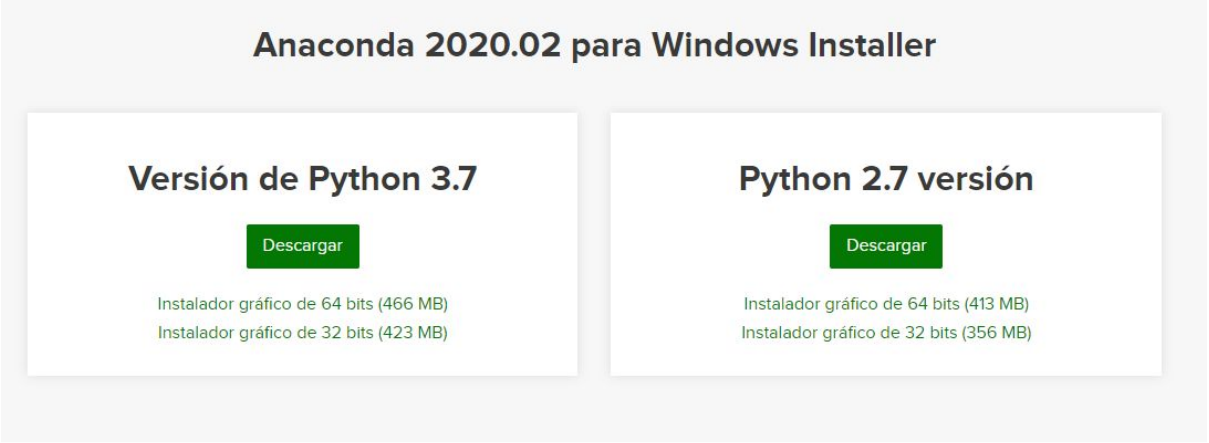
Installing anaconda and opencv

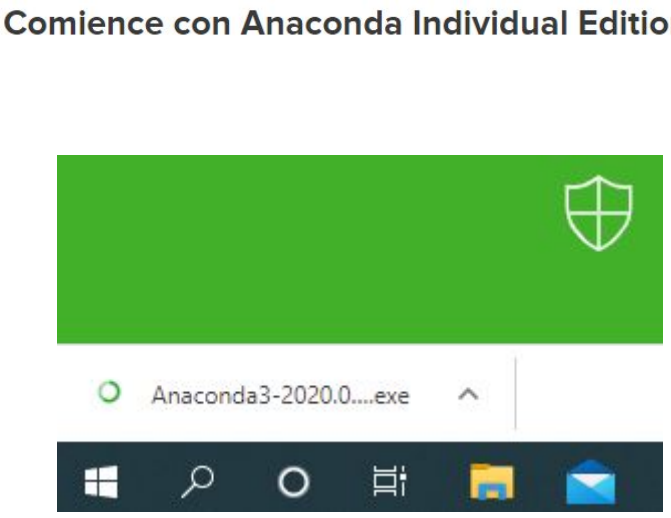
Anaconda

Anaconda is an open platform to work with python geared towards data science and machine learning.

To download it go to the link below and choose the version with Python 3.7

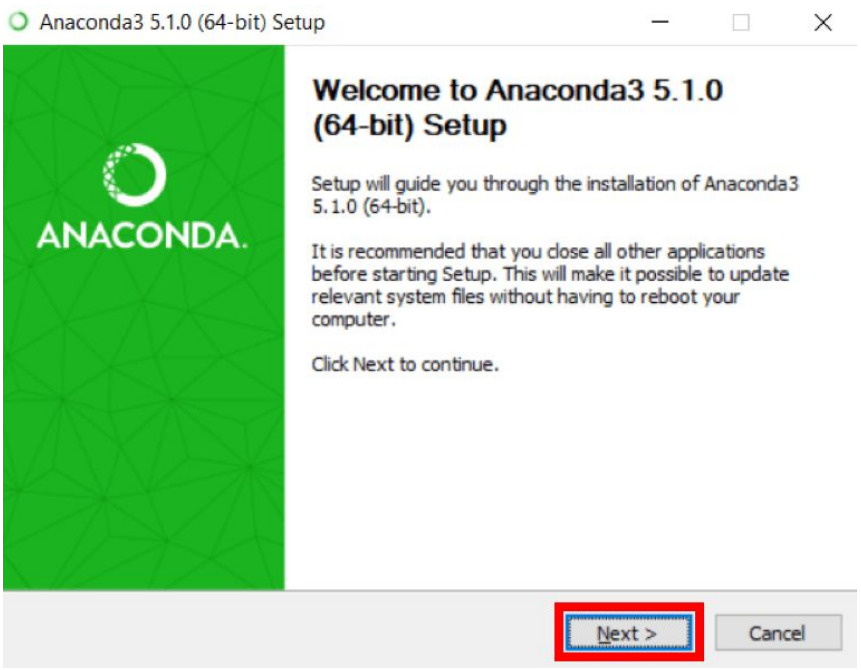
https://www.anaconda.com/distribution/



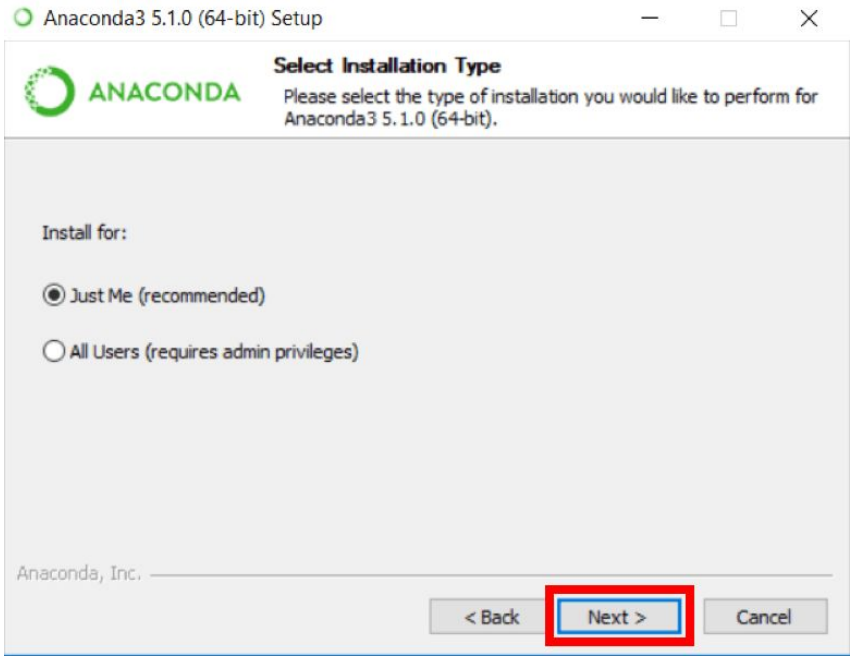


Once the download is complete install it by double clicking the installer launch.

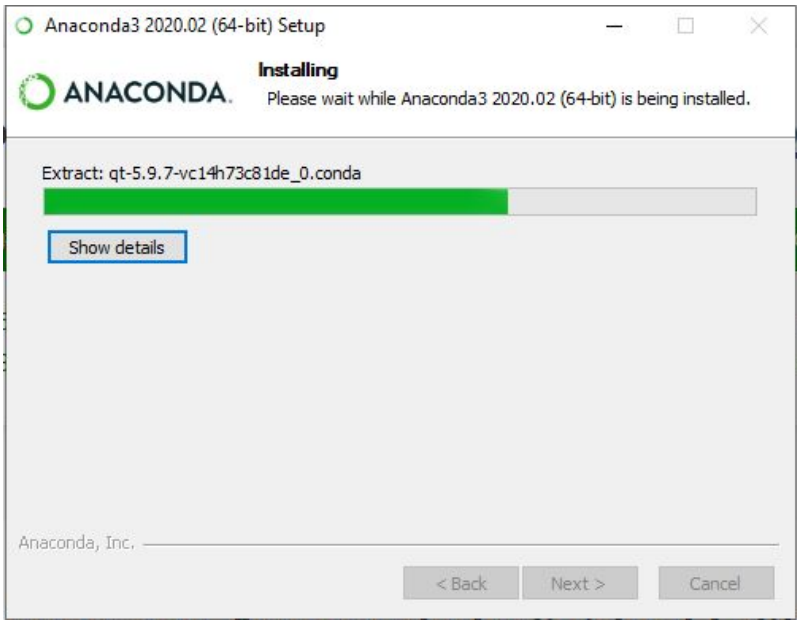
On the installer click “next” and “I agree” to the license agreement



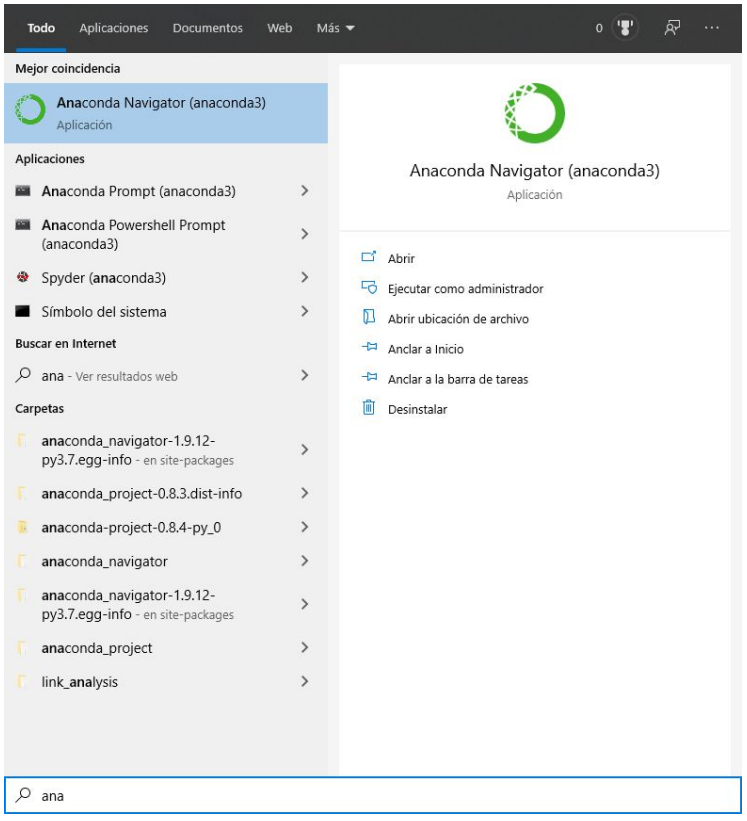
Install “just for me”



Next choose a destination folder, it should give you a default one.
In advanced options choose “Register Anaconda as my default Python 3.7” and click on next.



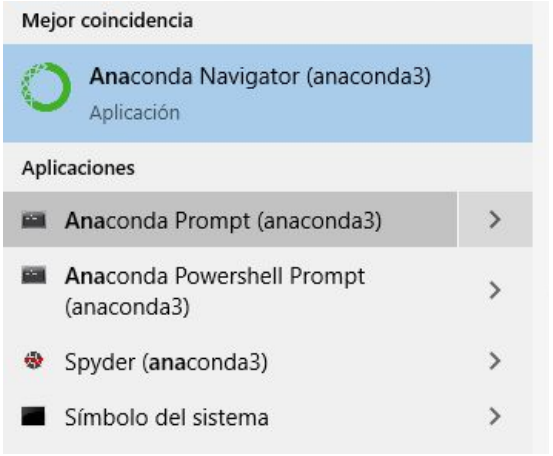
Then click on finish.
If everything is correct when you input anaconda in the windows search bar it should look like this.



OpenCV

OpenCV is the python library used for image processing, it's the only library we have to install because the other libraries necessary are preinstalled in Anaconda.

To install OpenCV open Anaconda Prompt:



Use this command:
Conda update conda -c conda-canary

```
(base) C:\Users\Guillermo Cuevas>conda update conda -c conda-canary
Collecting package metadata (current_repodata.json): done
Solving environment: done


==> WARNING: A newer version of conda exists. <==
  current version: 4.8.2
  latest version: 4.8.3

Please update conda by running

    $ conda update -n base -c defaults conda
```

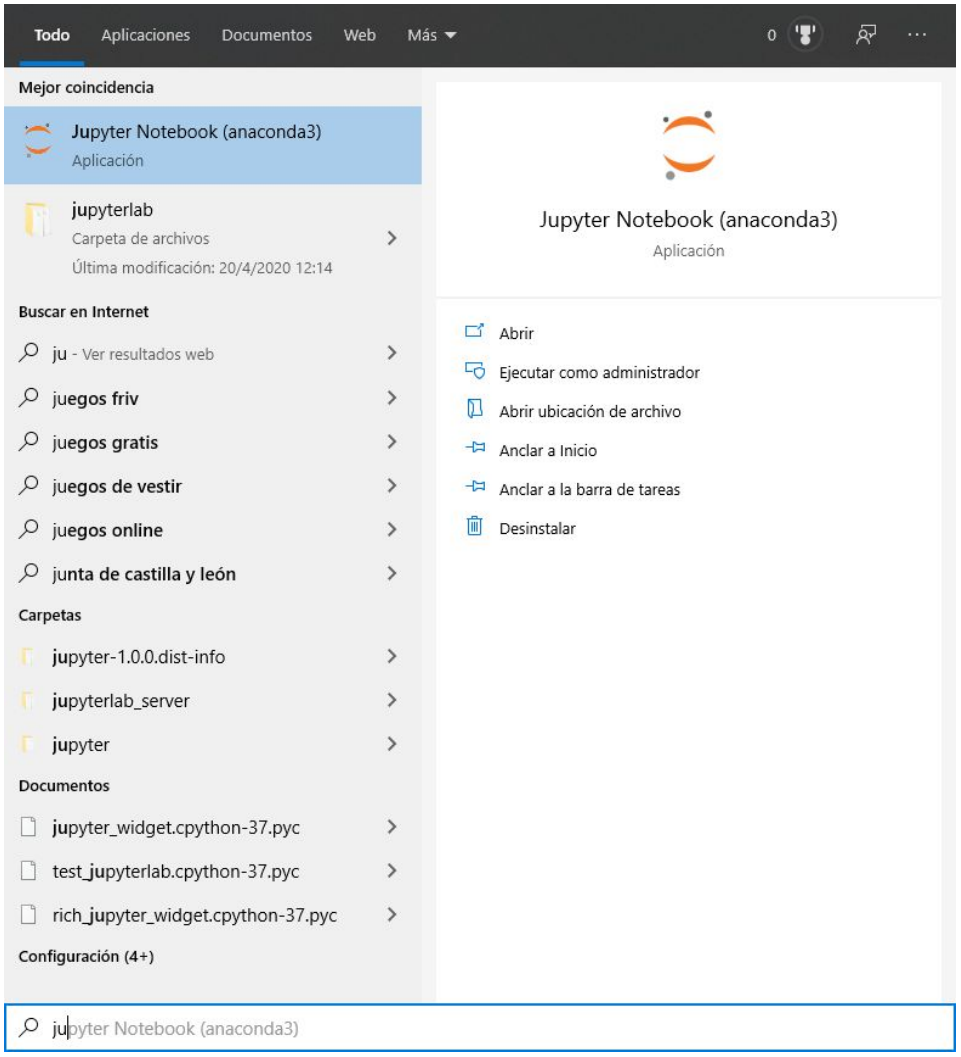
And then install OpenCV with:

Pip install opencv-python

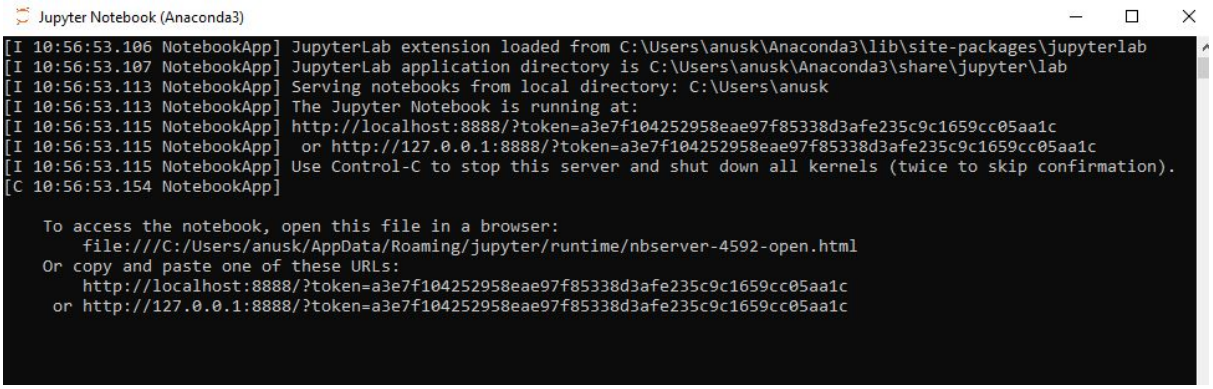
```
(base) C:\Users\Guillermo Cuevas>pip install opencv-python
Collecting opencv-python
  Downloading opencv_python-4.2.0.34-cp37-cp37m-win_amd64.whl (33.0 MB)
     |████████████████████████████████| 33.0 MB 78 kB/s
Requirement already satisfied: numpy>=1.14.5 in c:\users\guillermo cuevas\anaconda3\lib\site-packages (from opencv-pytho
n) (1.18.1)
Installing collected packages: opencv-python
Successfully installed opencv-python-4.2.0.34

(base) C:\Users\Guillermo Cuevas>
```

Jupyter notebook

Jupyter notebook is a web application that allows the creation of documents that contain live code. It comes with Anaconda so if you look up jupyter in the search bar it should appear:



When you open it, it will look like this:



It will automatically open a tab in your default browser, to change the browser copy the link given by the command window.

The jupyter homepage is a directory:

The extension of a jupyter notebook document is .ipynb

For this trial

This document was created to check the exercises for the subject “Tratamiento digital de la Imagen”, there are two ways to download the exercises:

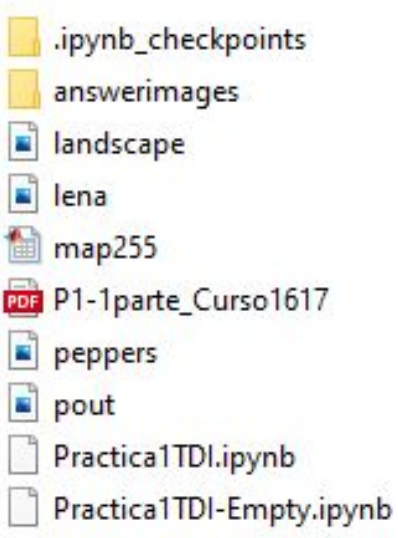
1. With github:
   If you have a github account, you can clone this repository:

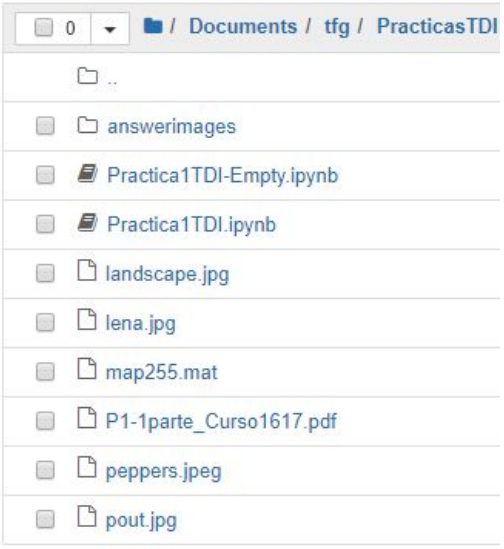
https://github.com/RoboticsLabURJC/2019-tfg-ana-cuevas

2. With google Drive:
   All exercises to be reviewed are uploaded to a folder in google drive, this may be less up to date than the Github option, but still will be updated with every mayor change:
   https://drive.google.com/open?id=1C7YVM2LDGFoSAPEsJJbtqC94g-A93_9G

   The folders are in .zip format, extract them in the folder you want going to be working in.

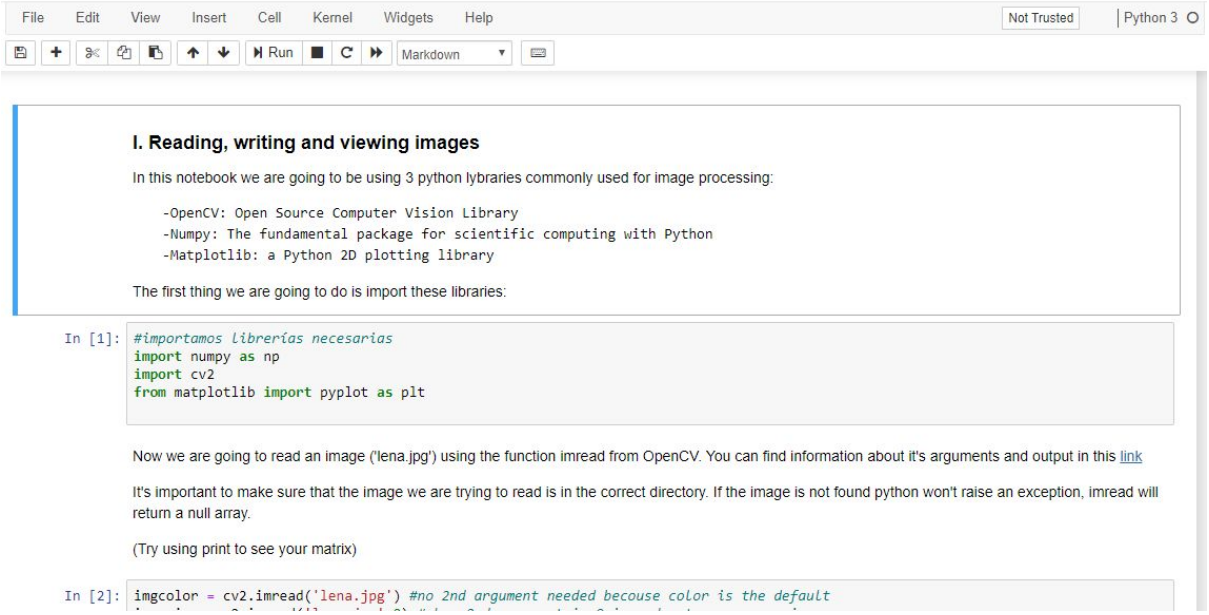
The folder for exercise 1 should look like this:





Practica1TDI.ipynb contains the exercise answered, while Practica1TDI-Empty.ipynb is the exercise with only what the students would see.

Once you open the notebooks this is what the jupyter interface looks like:



In these exercises there are two types of cell: Markdown for normal text, and code. The resolved notebooks should be run cell by cell, for the empty notebooks it's recommended to run it all once before starting to answer them: