

Lecture 01

Python/Jupyter Crash Course

2026-02-20

Computer Vision for Geosciences



1. Software installation

1. Anaconda installation
2. Jupyter environment

2. Access online-hosted Jupyter notebook service

3. Jupyter crash course

4. Python crash course

1.1. Anaconda installation

1. Follow **Anaconda**¹ installation instructions:

<https://docs.anaconda.com/anaconda/install/>

2. After installation, check out the installed packages from your terminal:

```
$ conda list
```

3. (To install other packages):

```
$ conda install package_name # installation from default channel  
$ conda install -c conda-forge jupyter_contrib_nbextensions
```

4. (To launch Anaconda Navigator from terminal)

```
$ anaconda-navigator
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¹Anaconda is a distribution of the Python and R programming languages for scientific computing, that aims to simplify package management and deployment

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<https://jupyter.org/>

Jupyter notebook

The Jupyter Notebook is an open-source web application that allows you to create and share documents that contain live code, equations, visualizations and narrative text.

1. Open a Jupyter notebook from your terminal

NB: root directory in Jupyter will be that from where Jupyter is launched

```
$ jupyter notebook
```

2. In Jupyter, open a “Python 3 notebook”, upload basic libraries

```
import numpy as np
from matplotlib import pyplot as plt
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3. (optional) Install jupyter extensions

<https://jupyter-contrib-nbextensions.readthedocs.io/en/latest/install.html>

3.1 Install extensions

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$ conda install -c conda-forge jupyter_contrib_nbextensions
```

3.2 Enable extensions

- From GUI:
A new tab “Nbextensions” will appear in Jupyter, from which extensions can be enabled.
Enable “Table of Contents (2)”.
- From Command Line:

```
$ jupyter nbextension enable toc2/main
```

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Jupyter lab: Jupyter's Next-Generation Notebook Interface

JupyterLab is a web-based interactive development environment for Jupyter notebooks, code, and data.

1. Open Jupyter lab from your terminal

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$ jupyter lab
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2. In Jupyter lab, open a “notebook”, a “console”, etc.

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Access “Google Colab”² environment:

1. Go to <https://colab.research.google.com>
2. Click “New notebook”
3. Start coding!



²“Colaboratory”, a.k.a. “Google Colab” is a hosted Jupyter notebook service that requires no setup to use, and provides free access to computing resources. It allows anybody to write and execute python code through the browser.

Access “Google Colab”² environment:

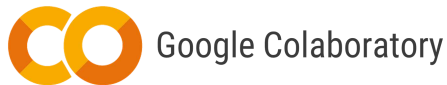
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Open jupyter notebook:

⇒ CV4GS_01_python-jupyter/**CV4GS_01_jupyter-tutorial.ipynb**

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