

Python Installation Instructions (Mac)

Predictive Analytics using Python

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Throughout the course we will use the Python programming language in conjunction with many open source libraries. While there are numerous Python distributions, we strongly recommend using Anaconda. Among many other features, Anaconda facilitates the usage of Python by providing a large number of frequently used packages and tools in its initial installation.

1. Please download and install anaconda: <https://www.anaconda.com/distribution/#download-section>
2. Install Graphviz:
 - a. install homebrew (<https://brew.sh>) by running the command:

```
/usr/bin/ruby -e "$(curl -fsSL https://raw.githubusercontent.com/Homebrew/install/master/install)"
```

- b. launch Mac terminal and run: **brew install graphviz**

Note:

- If prompted to enter the password in terminal the actual characters do not show up but they are indeed typed and when pressing enter it will indeed accept their computer password.
- After pressing enter you may have to wait a bit for the installs to complete.
- In case of the error "InvocationException: Program terminated with status: -5. stderr follows: dyld: Library not loaded: /usr/lib/libltdl.7.dylib":
 - from the terminal run: "brew install libtool --universal"
 - from the terminal run: "brew link libtool"
- In case of the error "InvocationException: Program terminated with status: 1. stderr follows: Format: "pdf" not recognized."
 - download and install XQuartz: (<https://www.quartz.org/>)

3. Type the following commands in the terminal (one at a time):

```
conda create -n cis432 python=3.6 keras tensorflow matplotlib scikit-learn lxml networkx spyder pandas numpy
conda activate cis432
conda install -c conda-forge jupyter_contrib_nbextensions ipywidgets
jupyter nbextension enable collapsible_headings/main
jupyter nbextension enable toc2/main
jupyter nbextension enable spellchecker/main
pip install pydot-ng
```

Homework 1: Run the test files in homework 1 by copying the files test.py and test.dot into some folder on your computer. Then, open the terminal, change the working directory to the folder containing the files and type: python test.py

The message “Passed installation tests!” would indicate that python is installed properly on your computer and that three files were created: test.png, test.pdf, and test.txt. Upload the files to Vocareum (homework 1) and click submit.

Summary: You have installed two versions of Python on your computer. While both versions could potentially work with the course material files, one is most likely to run smoothly. To launch jupyter/python/ipython/spyder:

- a. Open the terminal
- b. Change directory to the folder containing the course material. For example

```
cd "C:\Users\Yaron\Dropbox\Projects\Teaching\2021"
```

- c. Type: **conda activate cis432**
- d. Launch jupyter (or python/ipython/spyder) by executing the command:

```
jupyter notebook
```

(or simply write python/ipython/spyder)