Installing Python with Anaconda

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1 Python

Python is a programming language that is very popular and is used by many astronomers to perform their research. Some of the uses of Python include reading telescope data, analysing simulations and making graphs/plots of results.

If you were you were to google 'Install Python' you would see many different options and versions of Python to install and from different locations. It isn't particularly clear which one you should use, how to install it and how to use it one you have.

Additionally, if you are using MacOS or Linux your computer likely already has a version of Python already installed to run the operating system. So installing a new version may cause some conflicting issues with your computer, particularly if when you want to install more 'Python packages' (we will get to this later).

However there is much easier and better way to install Python. This is through using Anaconda.

2 Downloading and Installing Anaconda

Anaconda is distribution of Python designed for scientific computing. By installing Python through Anaconda, it makes managing and installing Python packages/versions significantly easier.

You should be able to follow these instructions to install Anaconda on your system:

- Go to https://www.anaconda.com/products/individual

- Click on 'Download'. It should take you to the bottom of the page to the different options (see Figure 1)

- Choose the installer for your operating system. You will probably want to use the graphical installer since it is much easier. [1]

- After the download completes, double click on the file to open the installer. It should like Figure 2 on Windows 10 or Figure 3 on macOS Big Sur.

2.1 Windows 10

- Click 'I Agree' to the licensing agreement (see Figure 4).

- Select to install for 'Just Me' then click 'Next'.

- Choose location to install. The default location should be something like `C:\Users\<NAME>\anaconda3`. This default location is normally recommended, but you can install it elsewhere.

- Tick the boxes that say *'Add Anaconda3 to my PATH environment variable'* and *'Register Anaconda3 as my default Python 3.8'*. See Figure 6. It will likely have a red warning that says the first option is not recommended, because it 'makes anaconda get found before previously installed software', but that is actually what we want to happen.

- Continue to Section 3.

2.2 MacOS

- Click 'Continue' on Read Me to get to the licensing agreement.

- Click 'Continue' then 'I Agree' to the licensing agreement (see Figure 5).

- Click 'Install' on installation type. This will install anaconda in the default location, usually `/Users/<NAME>/opt/anaconda3`.

- Click 'Continue' after the installation is complete.

- Continue to Section 3.

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[1] Windows users note: You can only use a graphical installer, but you need to check if your system is 64-bit (most likely) vs 32-bit, then choose the appropriate one. You can check which type your computer is by following these instructions.
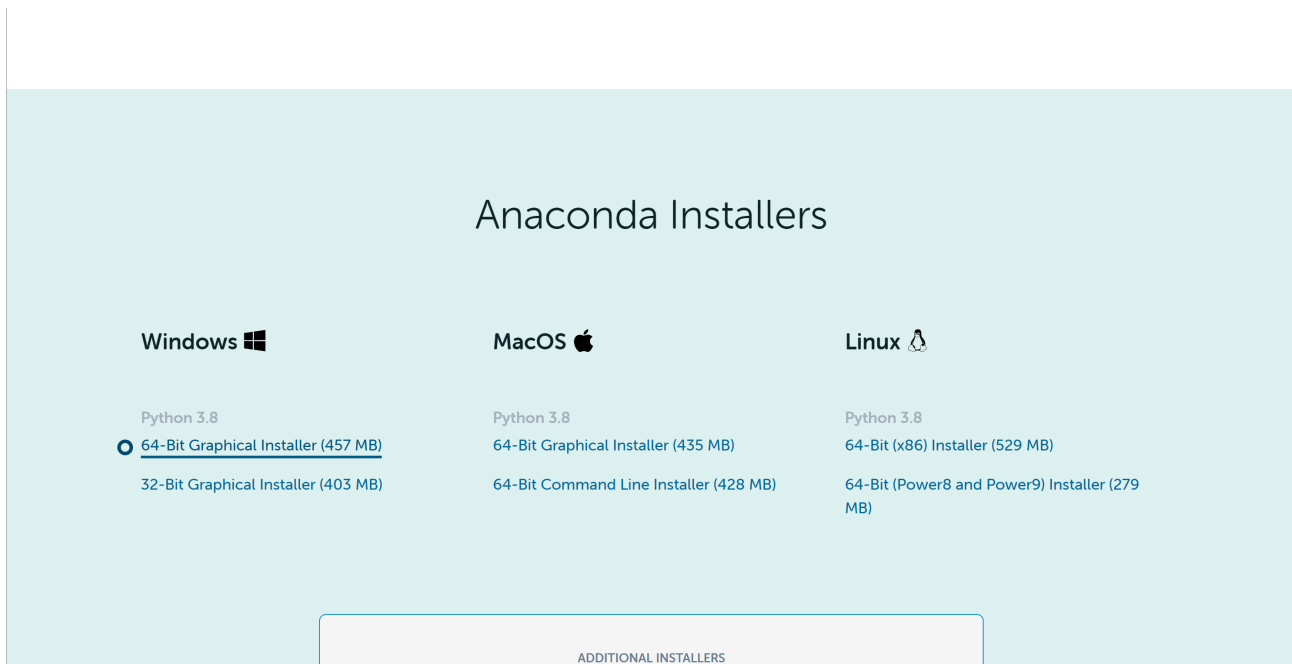
Figure 1: Anaconda installation options. Choose the one that is appropriate for your computer.
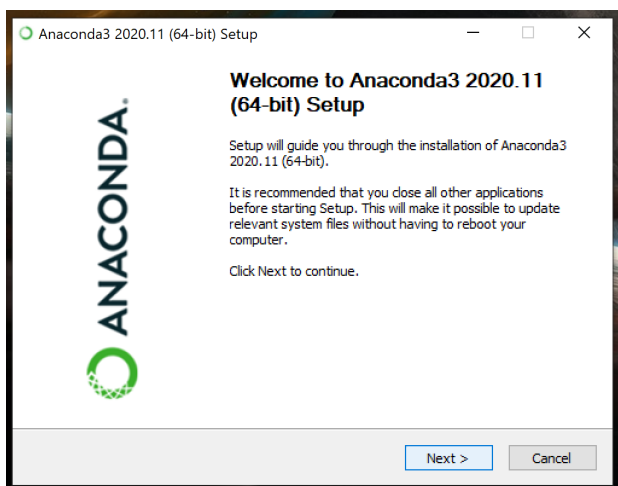

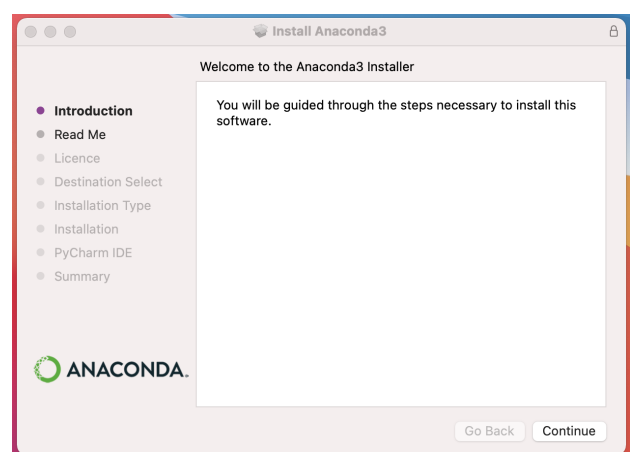Figure 2: Anaconda Installer (Windows)
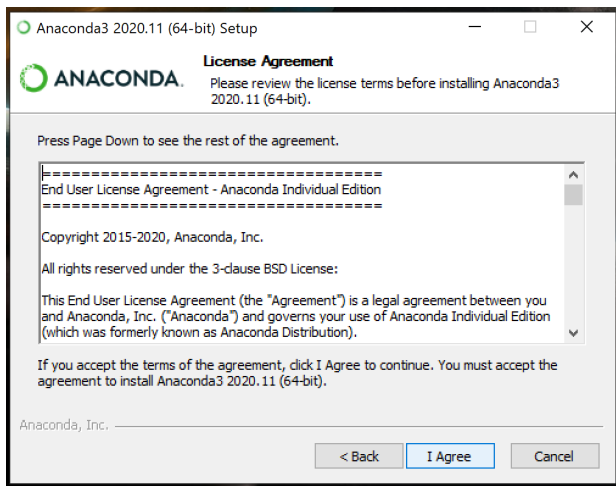

Figure 3: Anaconda Installer (macOS)

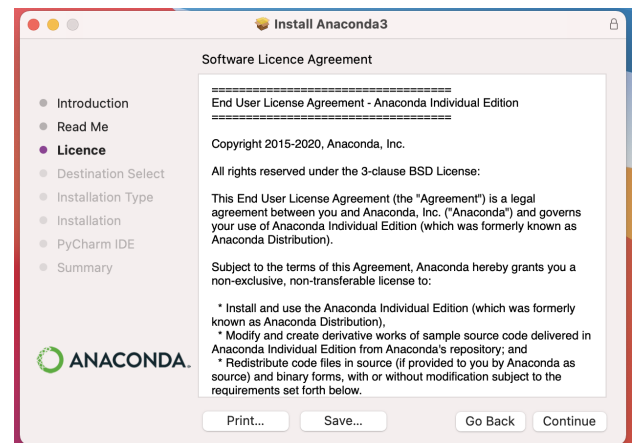Figure 4: Anaconda License Agreement (Windows)

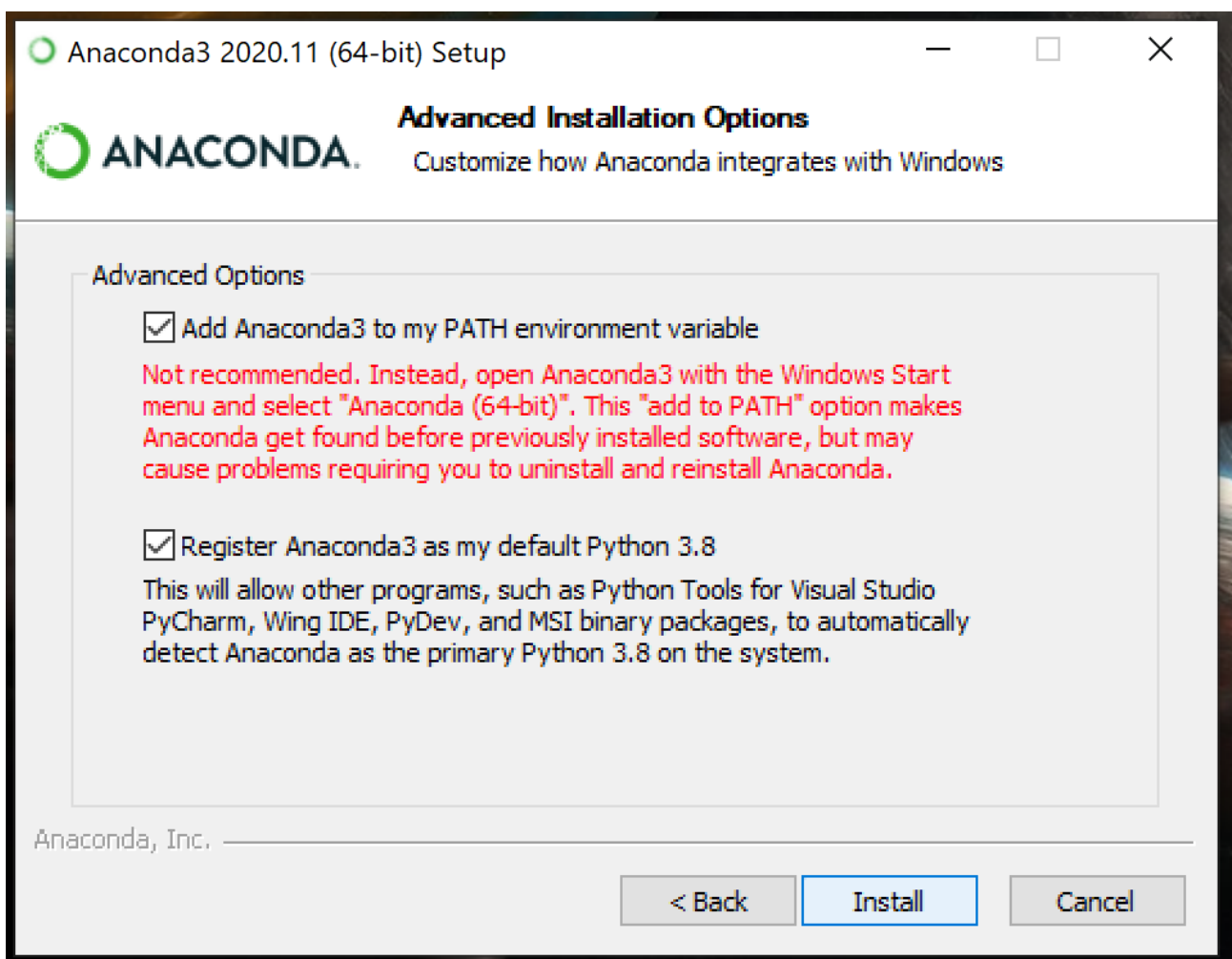Figure 5: Anaconda License Agreement (macOS)

Figure 6: Anaconda installation options on windows. You want to tick both boxes.

3   Anaconda Navigator

This installer has installed a program called 'Anaconda Navigator' on your computer. You can load this program

- **Windows:** Click the home button and search for 'anaconda navigator', then click to open

- **MacOS:** Click 'Launchpad' and search 'anaconda-Navigator', then click to open.

The program should look something similar to Figures 7 (windows) and 8 (MacOS). Note that you may have different icons or tiles showing based on what is already installed on your computer. The important thing you should be able to see is something called 'JupyterLab' and 'Jupyter Notebook'. If you can see both of these, then it has installed correctly and you are ready to start using anaconda and Python.
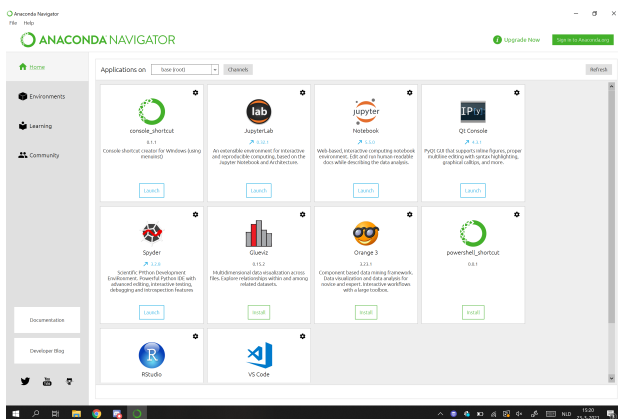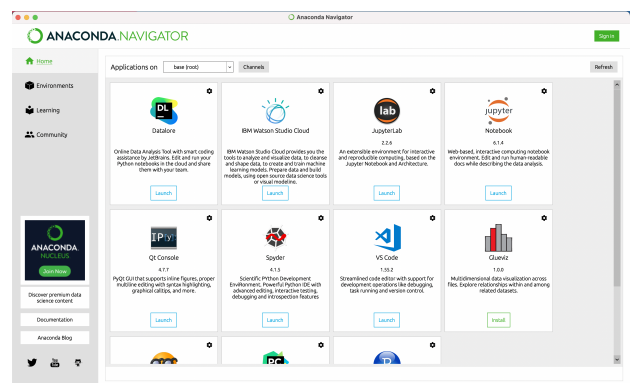

Figure 7: Anaconda Navigator (Windows)

Figure 8: Anaconda Navigator (macOS)