



ENPM 809T

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Anaconda & Python

- **Anaconda**: open source distribution of Python aimed at simplifying package management and deployment
- **Python**: an interpreted, high-level, general-purpose programming language first released in 1991

Anaconda & Python

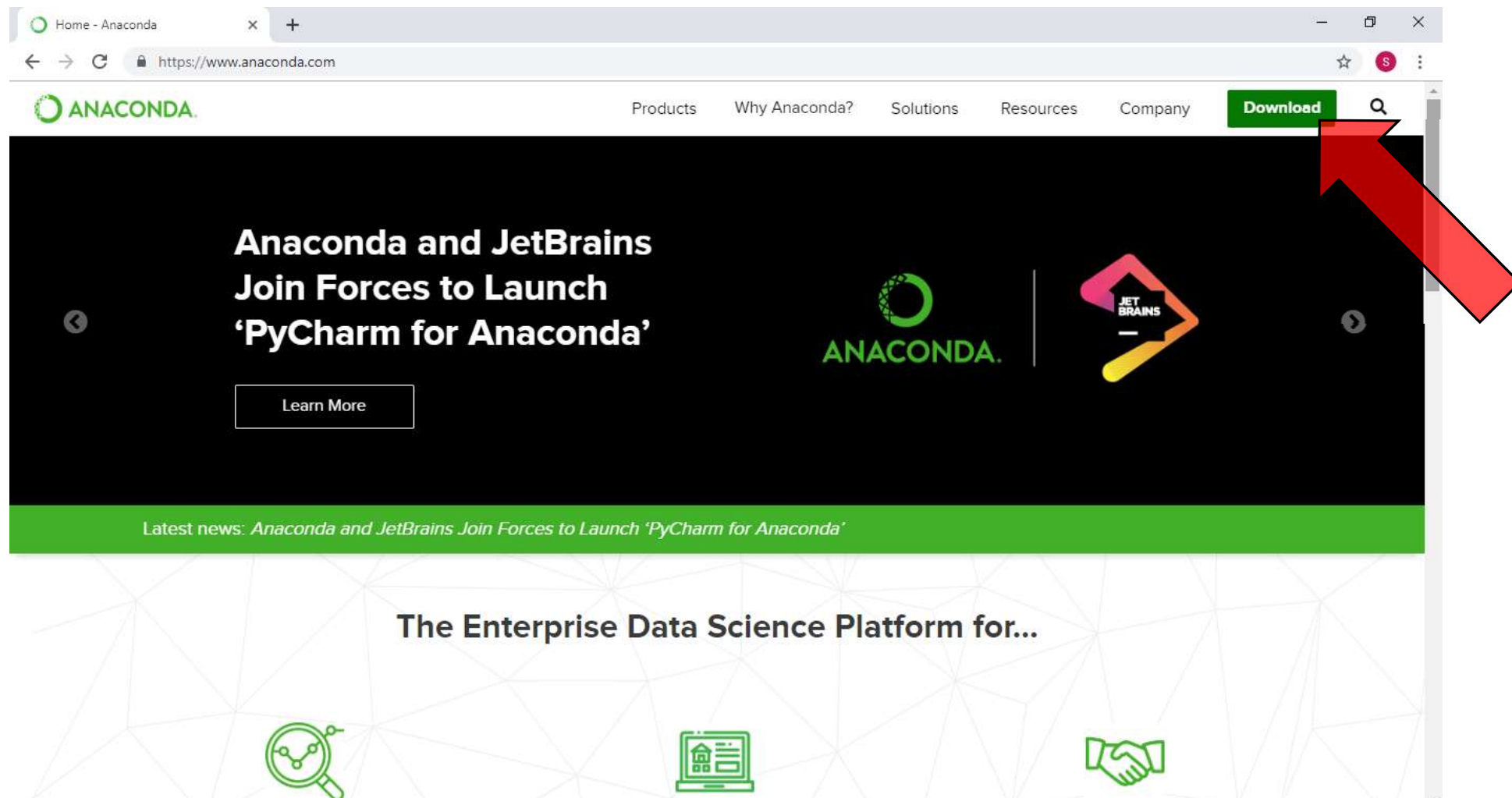
- Begin by downloading & installing Anaconda

****Video tutorials available on the course YouTube channel:**

<https://www.youtube.com/watch?v=6iI4VqAtkUg&list=PLekqOMAzgrTQK6XTwWWuIo3W9LR4XwIT5>

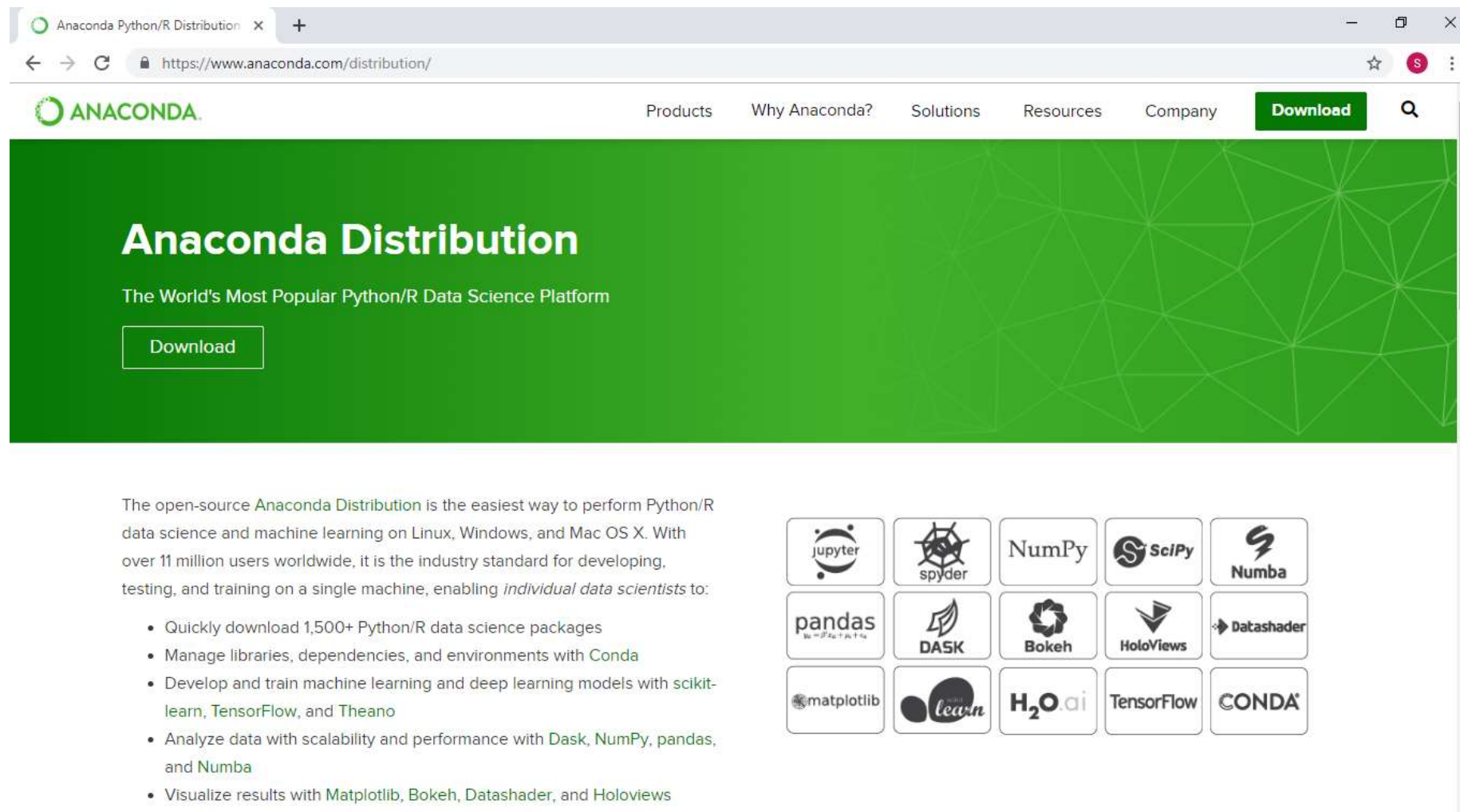
Anaconda

- Head to: <https://www.anaconda.com> and click Download



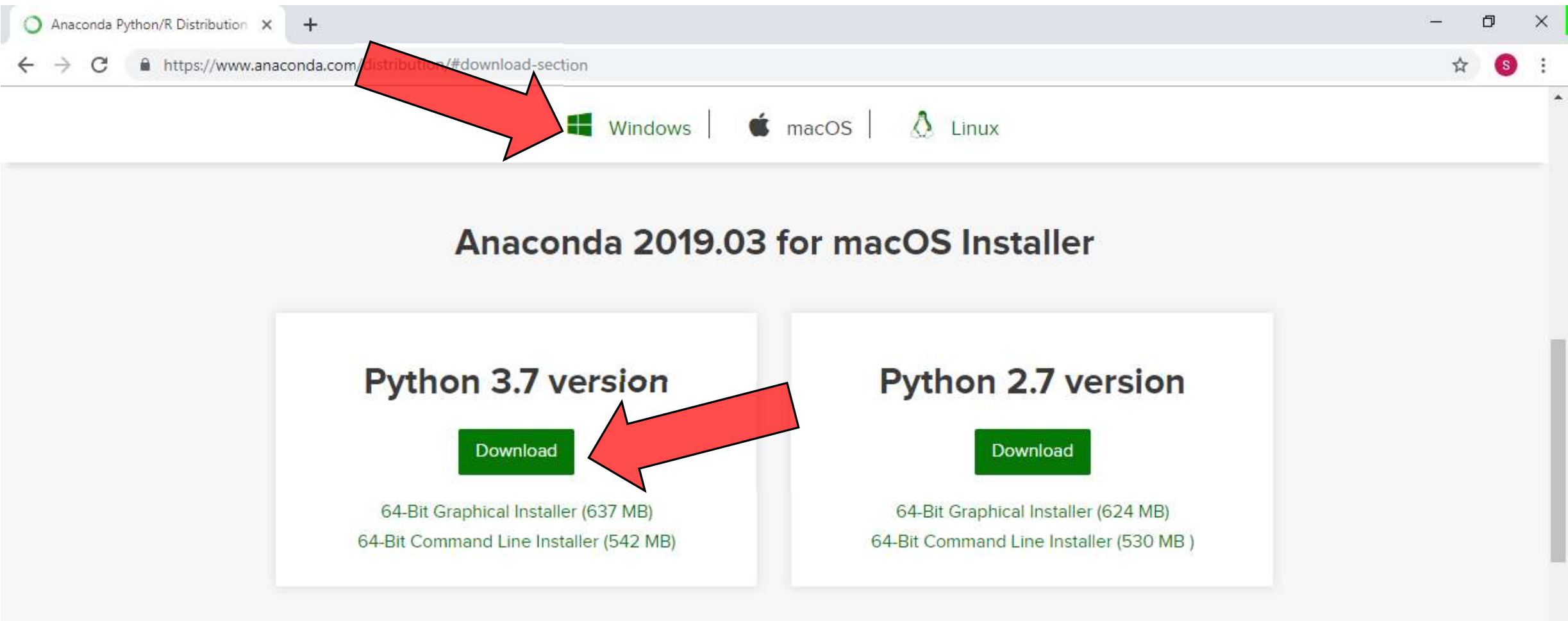
Anaconda

- From the download page, scroll down...



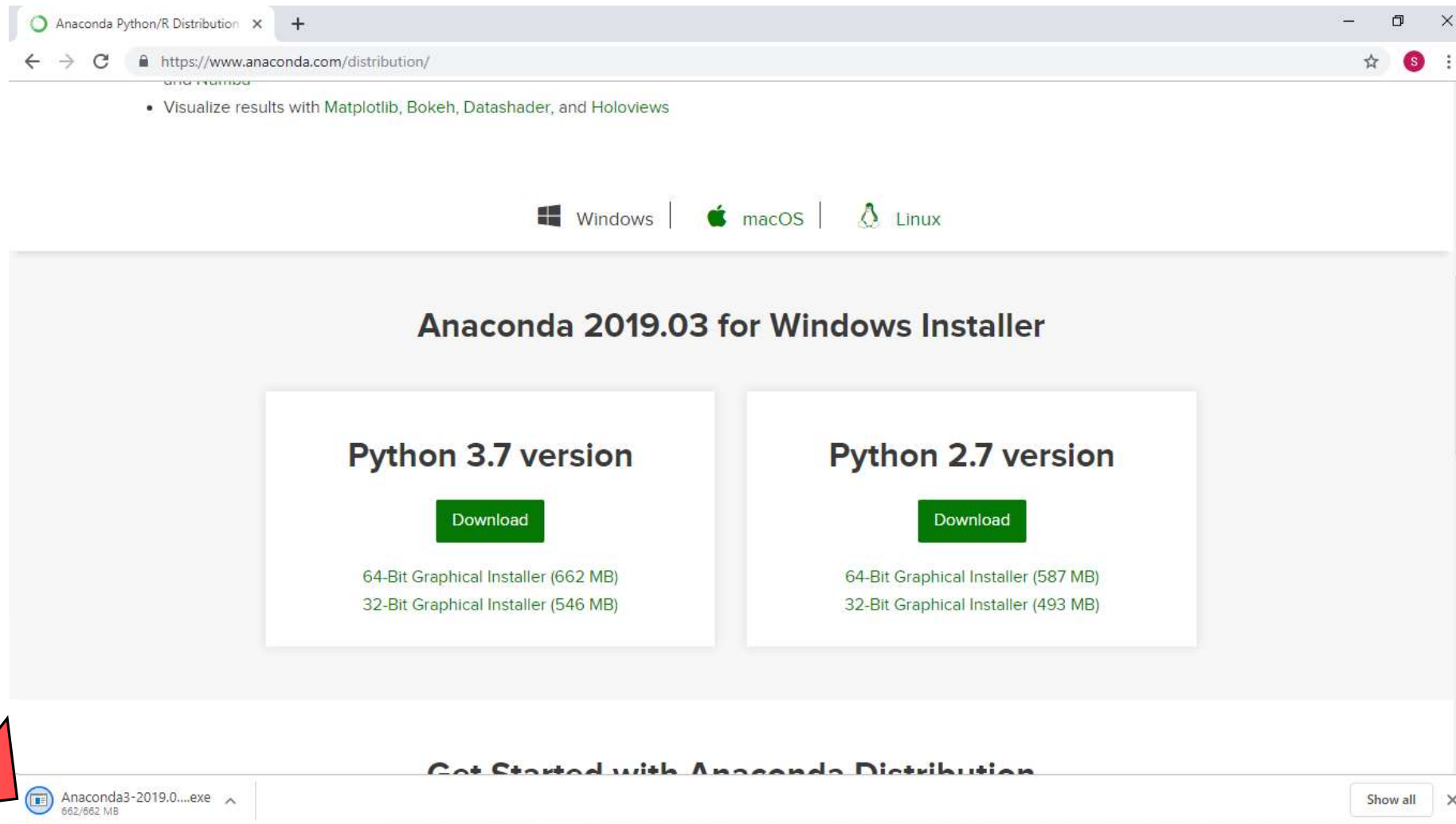
Anaconda

- ...and choose your **operating system** then click **Download**



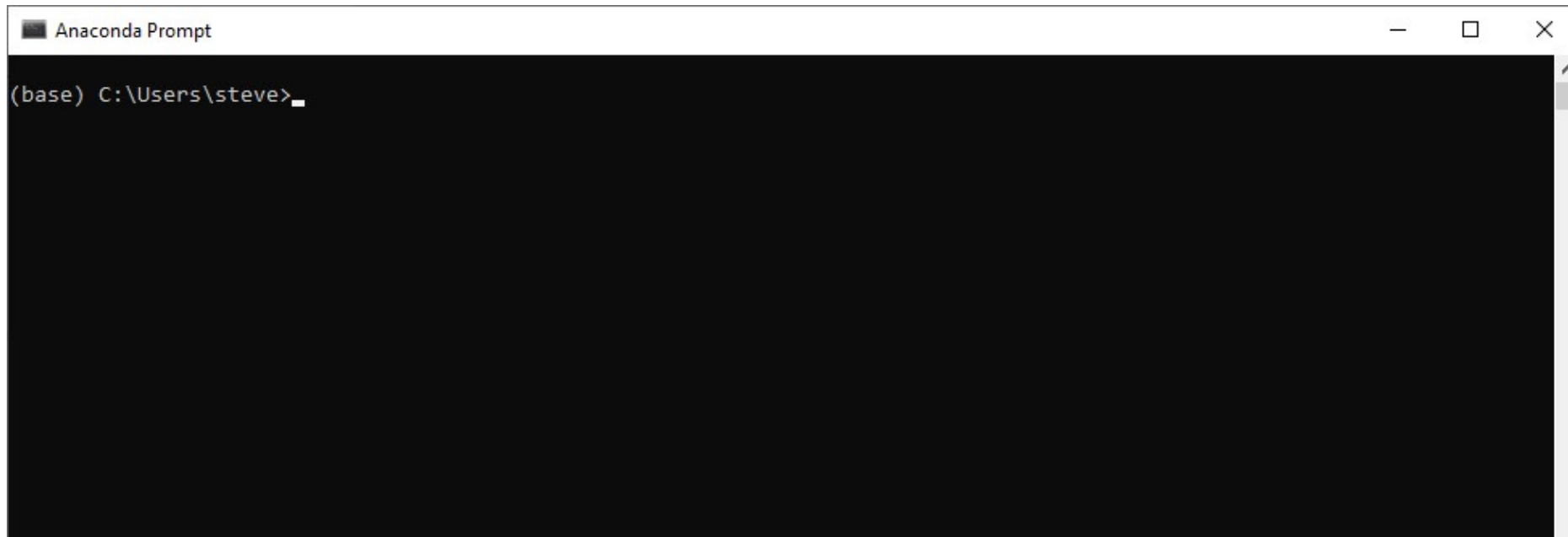
Installation

- Once finished downloading, [install](#) Anaconda



Installation

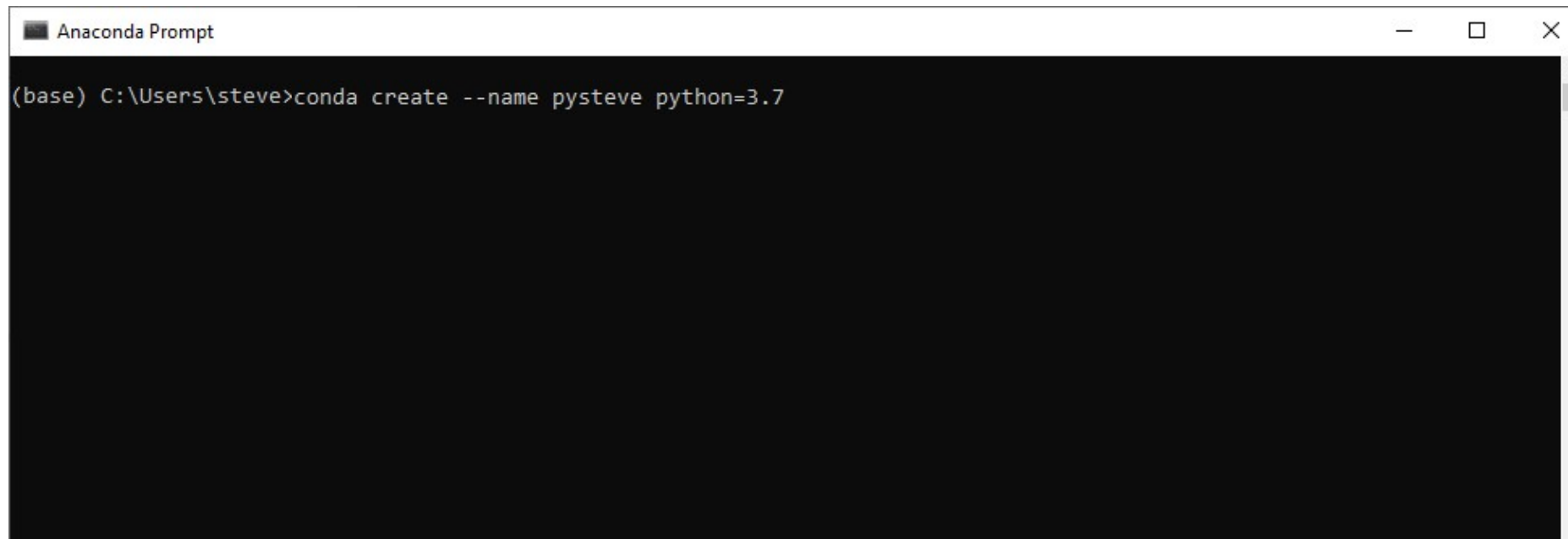
- Once installation is complete, open an [Anaconda Prompt](#)
- For example, in Windows search for [Anaconda Prompt](#)



Installation

**Depending on installation, confirm version, e.g. python=3.x*

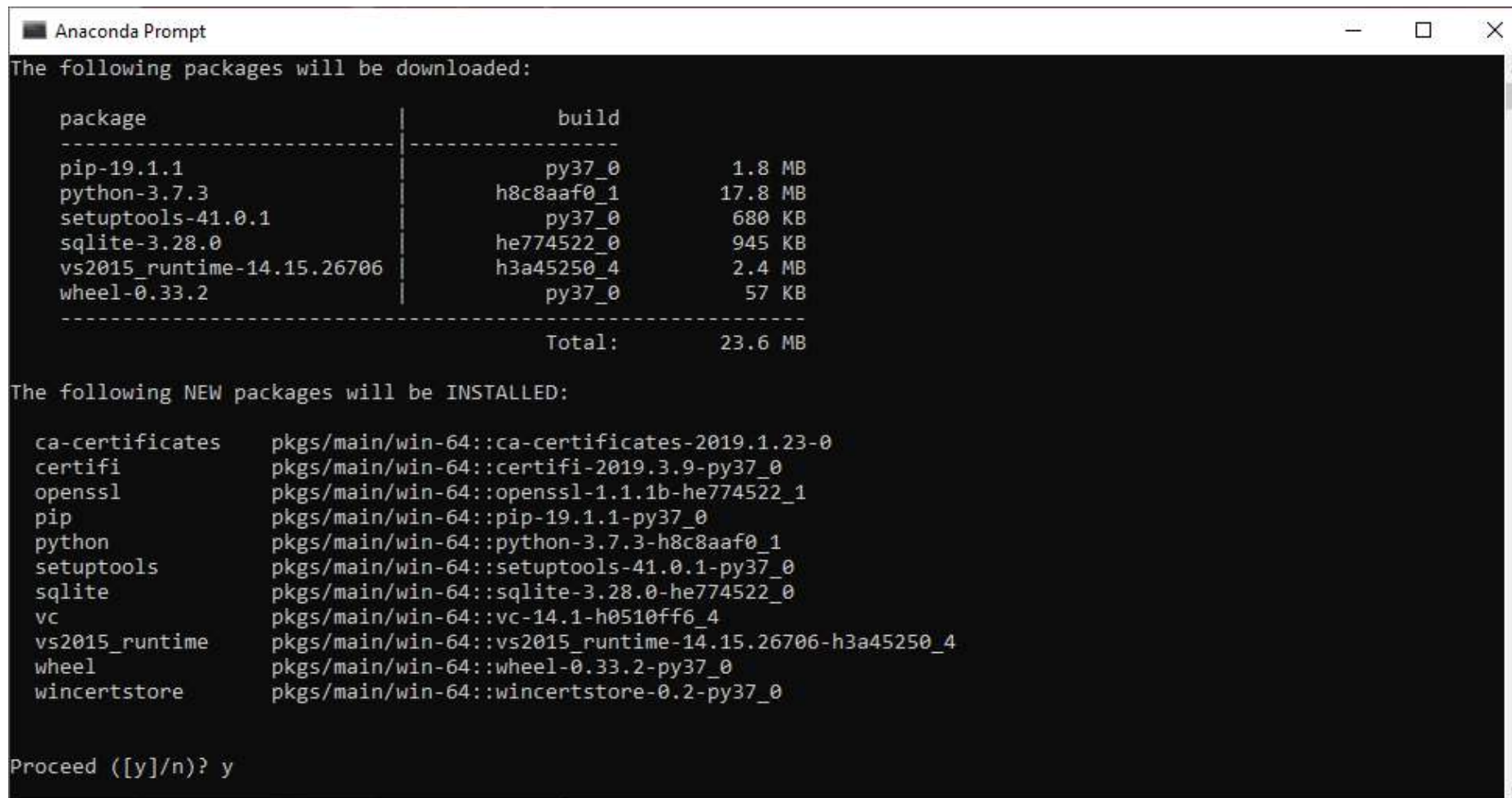
- Type: `conda create --name <name here> python=3.7`
- `<name here>` is the virtual environment you are creating
- For example: `conda create --name pysteve python=3.7`



```
Anaconda Prompt
(base) C:\Users\steve>conda create --name pysteve python=3.7
```

Installation

- Respond yes by typing the letter **y** when asked to proceed



```
Anaconda Prompt
The following packages will be downloaded:

package                                build                                1.8 MB
-----                                -
pip-19.1.1                             py37_0
python-3.7.3                           h8c8aaf0_1                          17.8 MB
setuptools-41.0.1                      py37_0                              680 KB
sqlite-3.28.0                          he774522_0                          945 KB
vs2015_runtime-14.15.26706             h3a45250_4                          2.4 MB
wheel-0.33.2                           py37_0                              57 KB
-----
Total:                                23.6 MB

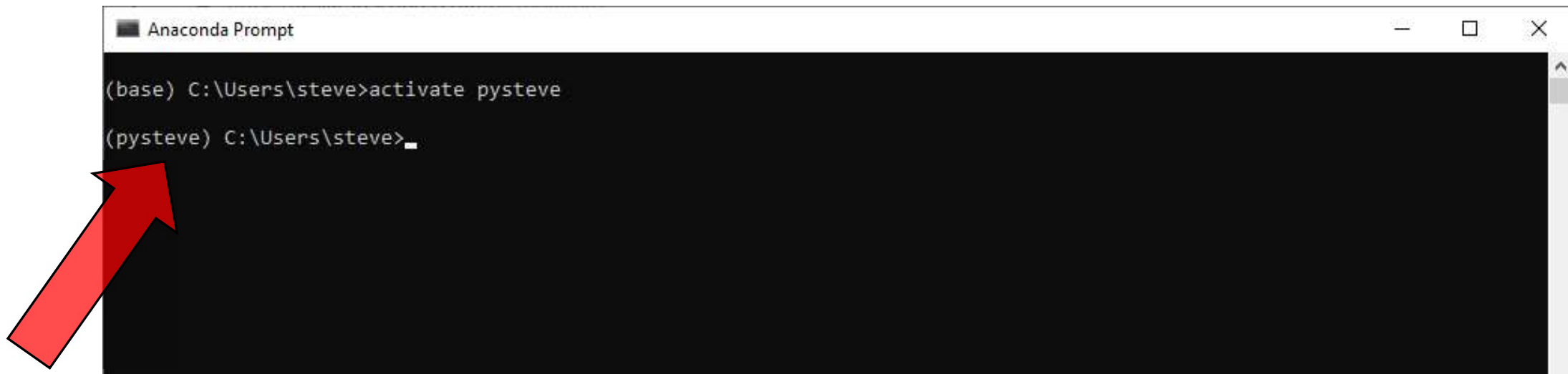
The following NEW packages will be INSTALLED:

ca-certificates  pkgs/main/win-64::ca-certificates-2019.1.23-0
certifi          pkgs/main/win-64::certifi-2019.3.9-py37_0
openssl          pkgs/main/win-64::openssl-1.1.1b-he774522_1
pip              pkgs/main/win-64::pip-19.1.1-py37_0
python           pkgs/main/win-64::python-3.7.3-h8c8aaf0_1
setuptools       pkgs/main/win-64::setuptools-41.0.1-py37_0
sqlite           pkgs/main/win-64::sqlite-3.28.0-he774522_0
vc               pkgs/main/win-64::vc-14.1-h0510ff6_4
vs2015_runtime  pkgs/main/win-64::vs2015_runtime-14.15.26706-h3a45250_4
wheel            pkgs/main/win-64::wheel-0.33.2-py37_0
wincertstore     pkgs/main/win-64::wincertstore-0.2-py37_0

Proceed ([y]/n)? y
```

Installation

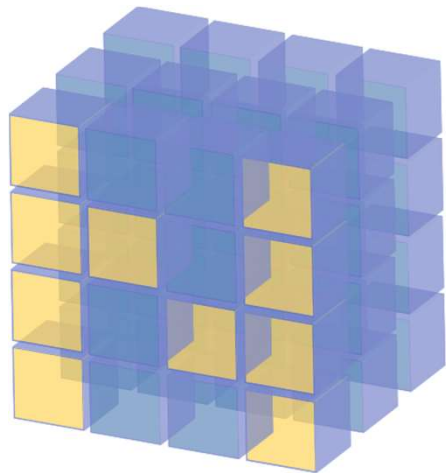
- Each time an Anaconda Prompt is opened, the virtual environment must be activated
- To activate, type: `activate <name here>`
- This example: `activate pysteve` (Mac users `source activate pysteve`)



```
Anaconda Prompt
(base) C:\Users\steve>activate pysteve
(pysteve) C:\Users\steve>_
```

Installation

- Install required packages



NumPy

<https://www.numpy.org/>

matplotlib

<https://matplotlib.org/>



<https://opencv.org/>



<https://github.com/jrosebr1/imutils>

Installation

- Install desired packages
- For each package, type: `conda install <name here>` or `pip install <name here>`
- For example: `conda install numpy` or `pip install imutils`
- For OpenCV: `pip install opencv-python`

Installation

- Confirm packages have been installed
- If environment is not yet activated, type: `activate <name here>`
- Type: `conda list`
- Lists all packages installed in the `<name here>` environment

Installation

- Confirm packages function properly
- If environment is not yet activated, type: `activate <name here>`
- Open Python by typing: `python`
- Import each package
- For example, typing: `import numpy` and hit enter
- Packages imported properly if no errors are thrown by Python
- Exit Python by typing: `exit()`

References

- *Anaconda*
 - <https://www.anaconda.com>
- *Installing Python via Anaconda*
 - <https://www.youtube.com/watch?v=6iI4VqAtkUg&list=PLekqOMAzgrTQK6XTwWWuIo3W9LR4XwIT5&index=1>
- *Installing Python via Anaconda: Sanity Check*
 - <https://www.youtube.com/watch?v=MGrY49b7y90&list=PLekqOMAzgrTQK6XTwWWuIo3W9LR4XwIT5&index=2>