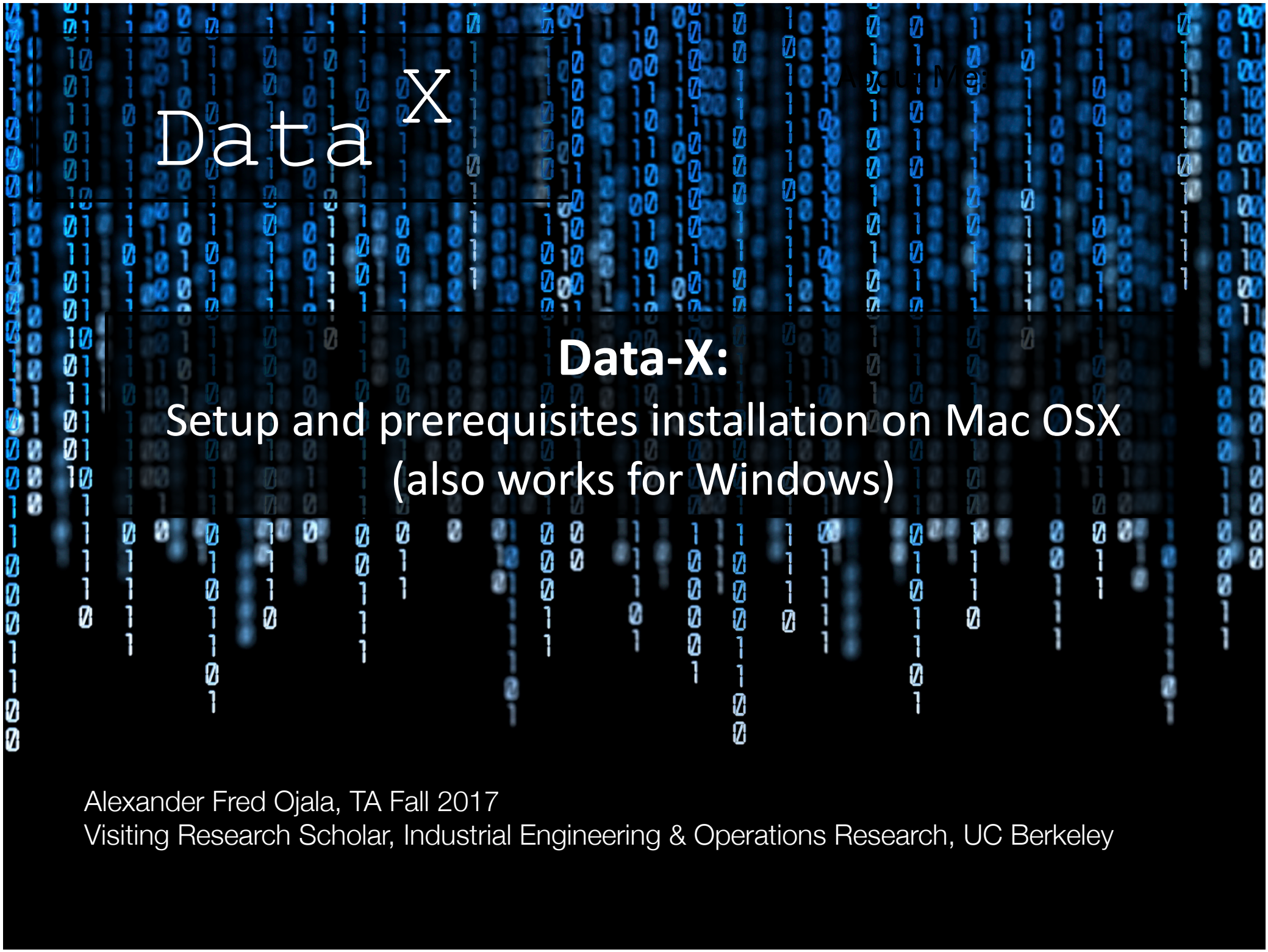


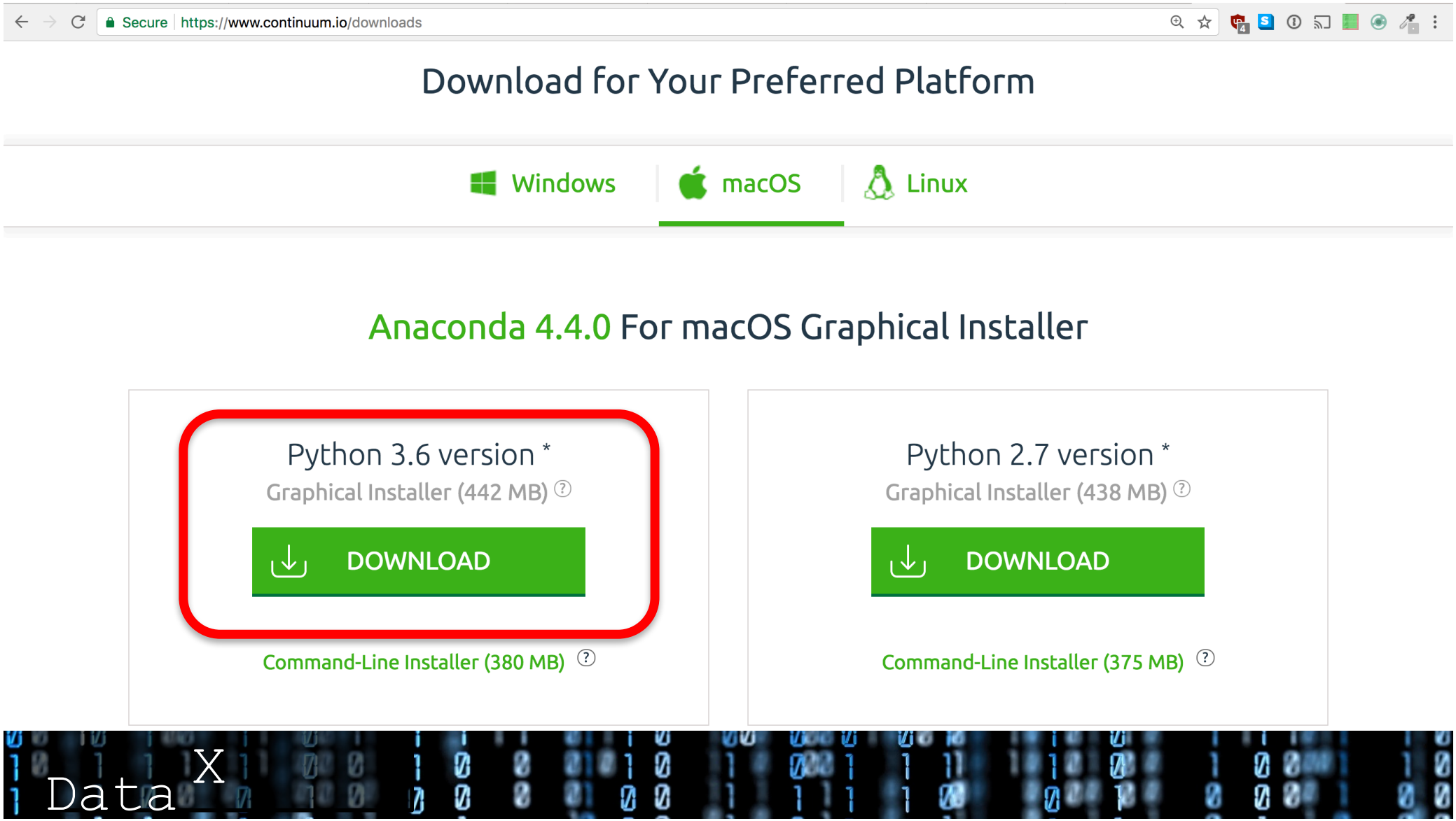
Data-X:

Setup and prerequisites installation on Mac OSX (also works for Windows)

Alexander Fred Ojala, TA Fall 2017
Visiting Research Scholar, Industrial Engineering & Operations Research, UC Berkeley

Install Anaconda with Python 3.6

www.continuum.io/downloads



Create Virtual Environment for Data-X

- **Open Terminal**
- **Run the command:**

```
conda create -n data-x python=3 anaconda
```

To activate Virtual environment:

```
source activate data-x
```

on Windows: `activate data-x`

To deactivate Virtual environment:

```
source deactivate
```

on Windows: `deactivate`

Create Virtual Environment for Python 2.7

We have chosen to work with Python 3.6 in this class, however it is easy to also install a Python 2.7 Virtual Environment(if you'd ever need it)

- **Open Terminal**
- **Run the command:**

```
conda create -n py2 python=2 anaconda
```

To activate the Python 2.7 Virtual environment:

```
source activate py2
```

on Windows: `activate py2`

To deactivate (any) Virtual environment:

```
source deactivate
```

on Windows: `deactivate`

Please note, many functions, modules and libraries differ between Python 2.x and Python 3.x (Python 3 is not backwards compatible). However, many scripts / notebooks can be compatible with both Python 3 and Python 2 by running the code below first in your script / notebook:

```
from __future__ import absolute_import, division, print_function
```

Before you install packages or run a notebook Always Activate the Virtual Environment first!

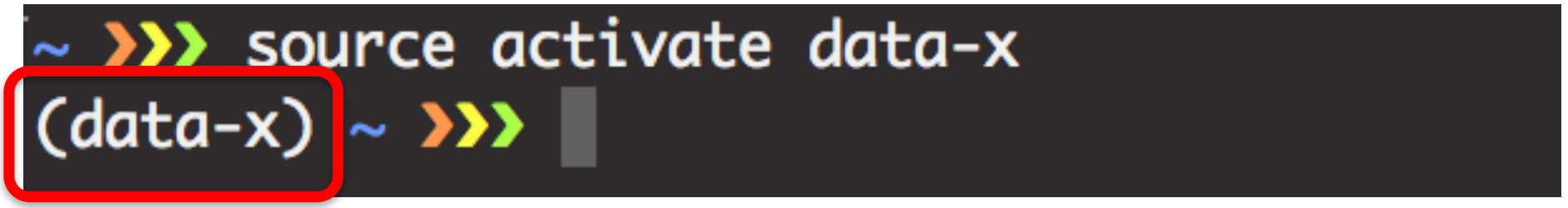
(This way you will never run into problem with crashing your root Python / Anaconda installation)

Run:

`source activate data-x`

(on Windows: `activate data-x`)

every time you open a new terminal window.



The word within the parenthesis at the start of every line in the command prompt indicate what Virtual Environment you have activated

Install packages into your Virtual Environment

Anaconda comes with many packages pre-installed, but if you want to install additional packages (or update existing ones) you can run:

Install a package by running:

```
conda install [package name]
```

Install packages by running:

```
conda install [pkg1] [pkg2] [pkg3]
```

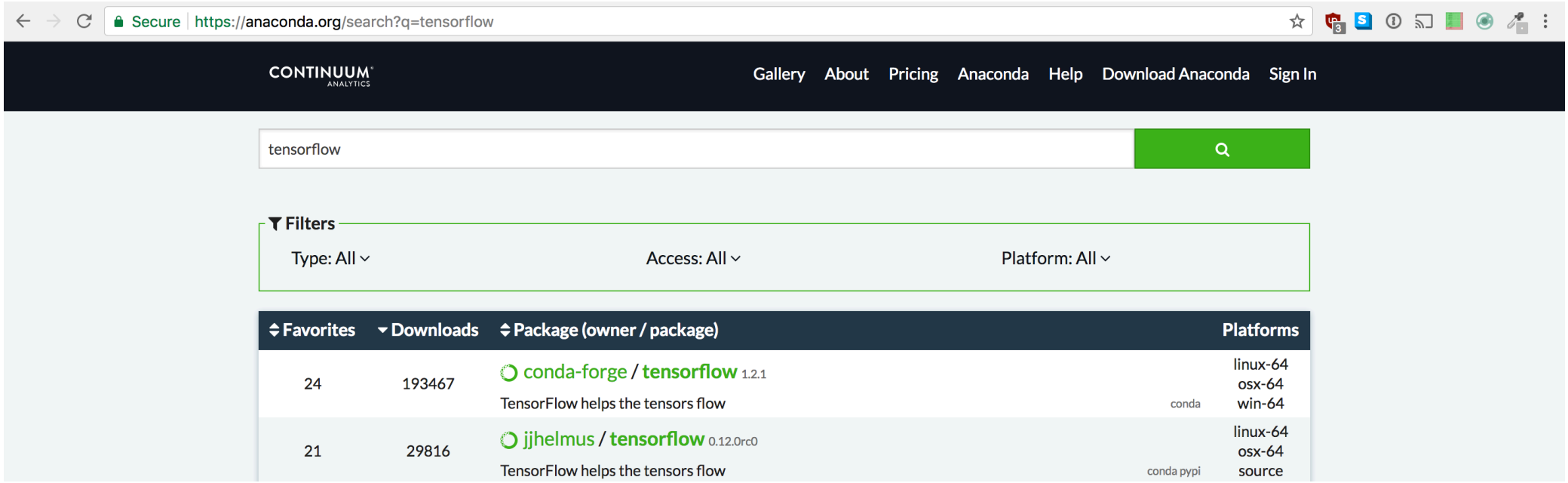
```
(data-x) ~ >>> conda install numpy
```

Installing packages not available via conda

Some packages are not available via conda, instead you can visit https://anaconda.org/ (Anaconda Cloud, a package management service) and search for the package you want to install. Here you can usually find any Python package for your specific machine settings.

Install a package by (for example) running:

```
conda install -c conda-forge tensorflow
```



Run your first notebook

Anaconda comes with Jupyter notebooks which we will work with a lot. In order to run your first Jupyter notebook, open the terminal, source your Virtual Environment, `cd` t into the specific working directory and then run the comand `jupyter notebook` wa new broswer window with your current directory will open and you can either create a new notebook or open an existing one.

```
~ ▸
~ ▸ source activate data-x
(data-x) ~ ▸ cd data-x
(data-x) ~/data-x ▸ jupyter notebook
[I 13:16:46.601 NotebookApp] Serving notebooks from local directory: /Users/FO/data-x
[I 13:16:46.601 NotebookApp] 0 active kernels
[I 13:16:46.601 NotebookApp] The Jupyter Notebook is running at: http://localhost:8888/
?token=eae7a2506a950b2d995199cd59297bd7ddb70f33aba5f67b
[I 13:16:46.601 NotebookApp] Use Control-C to stop this server and shut down all kernel
s (twice to skip confirmation).
[C 13:16:46.602 NotebookApp]

    Copy/paste this URL into your browser when you connect for the first time,
    to login with a token:
        http://localhost:8888/?token=eae7a2506a950b2d995199cd59297bd7ddb70f33aba5f67b
[I 13:16:47.083 NotebookApp] Accepting one-time-token-authenticated connection from ::1
```

Da

Troubleshooting / In-depth explanations

Please refer to the material below and / or Google if you encounter any problems or would like a more in-depth explanation:

- https://machinelearningmastery.com/setup-python-environment-machine-learning-deep-learning-anaconda/
- https://medium.com/k-folds/setting-up-a-data-science-environment-5e6fd1cbd572
- https://drivendata.github.io/pydata-setup/

Or come and visit Office Hours ☺

Good luck!