Machine Learning Tools and Libraries

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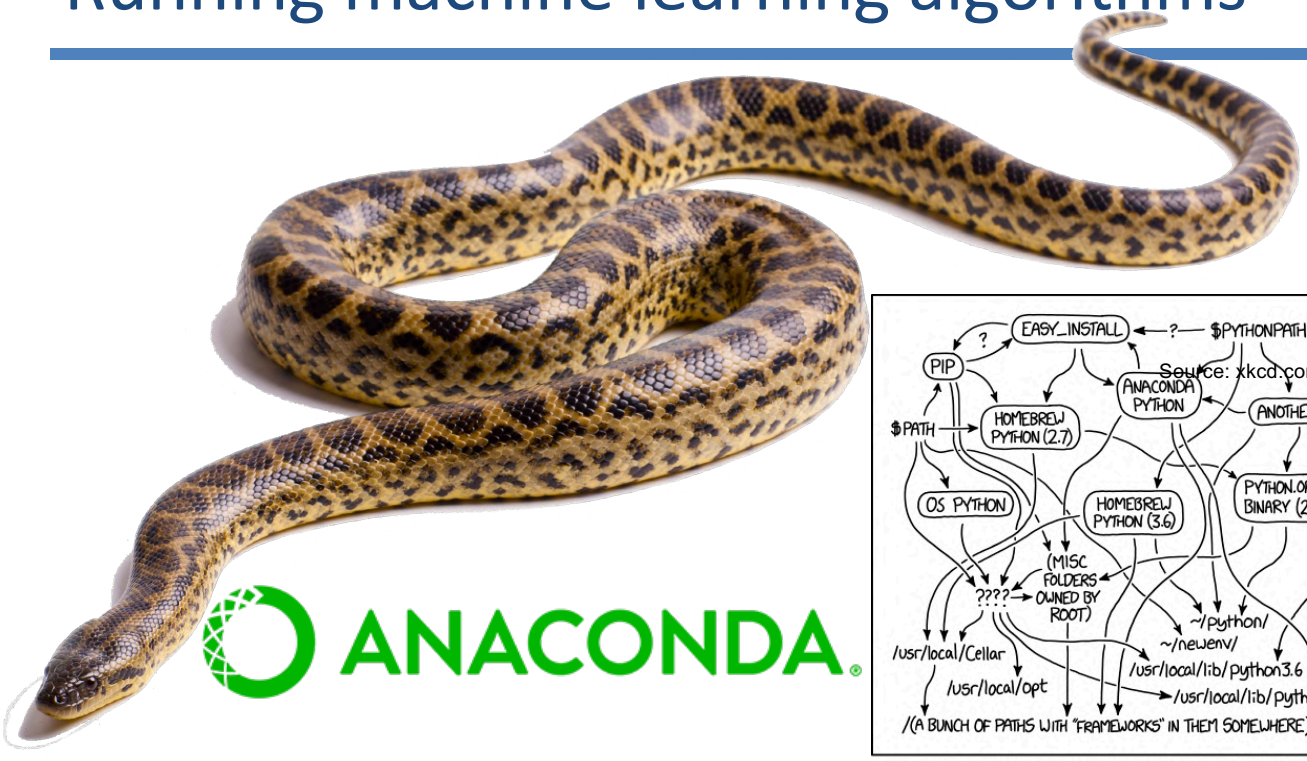
Languages, Tools, and Libraries

- Popular programming languages for ML
  - Python, R, Julia, C#, Lisp, Go
  - Java, C/C++, Matlab/Octave
- Machine learning libraries
  - Numpy, SciPy, Pandas
  - SciKitLearn, TensorFlow, Keras, PyTorch
  - Apache MXNet, Apache Singa
- Software distributions
  - Anaconda distribution
  - Matlab, SAS

Running machine learning algorithms



MY PYTHON ENVIRONMENT HAS BECOME SO DEGRADED THAT MY LAPTOP HAS BEEN DECLARED A SUPERFUND SITE.

https://www.anaconda.com/download

Anaconda Distribution

- Open source tool in Python for data science, machine learning, and scientific computing in general
- A friction free way to develop and test machine learning algorithms
- Install via: https://www.anaconda.com/download
  - Works on Mac, Windows, Linux
- Tools installed by Anaconda
  - Python – programming language
  - Jupyter – computational notebook, supports Python, R, etc.
  - Scientific computing – NumPy, SciPy, Pandas
  - Visualization – Matplotlib
  - SciKitLearn – Machine learning library in Python

Deep Learning Libraries

- SciKitLearn – Free machine learning library for Python (http://scikit-learn.org/)
- TensorFlow – Open source ML framework by Google (https://www.tensorflow.org/)
- Keras – Deep learning framework that works with TensorFlow (https://keras.io)
- PyTorch – Open source ML framework by Facebook (https://pytorch.org/)
- Many other libraries

Article: Install Anaconda and Jupyter on Windows
https://medium.com/@GalarnykMichael/f8e188f9a63d

M

Become

Install Python (Anaconda) on Windows

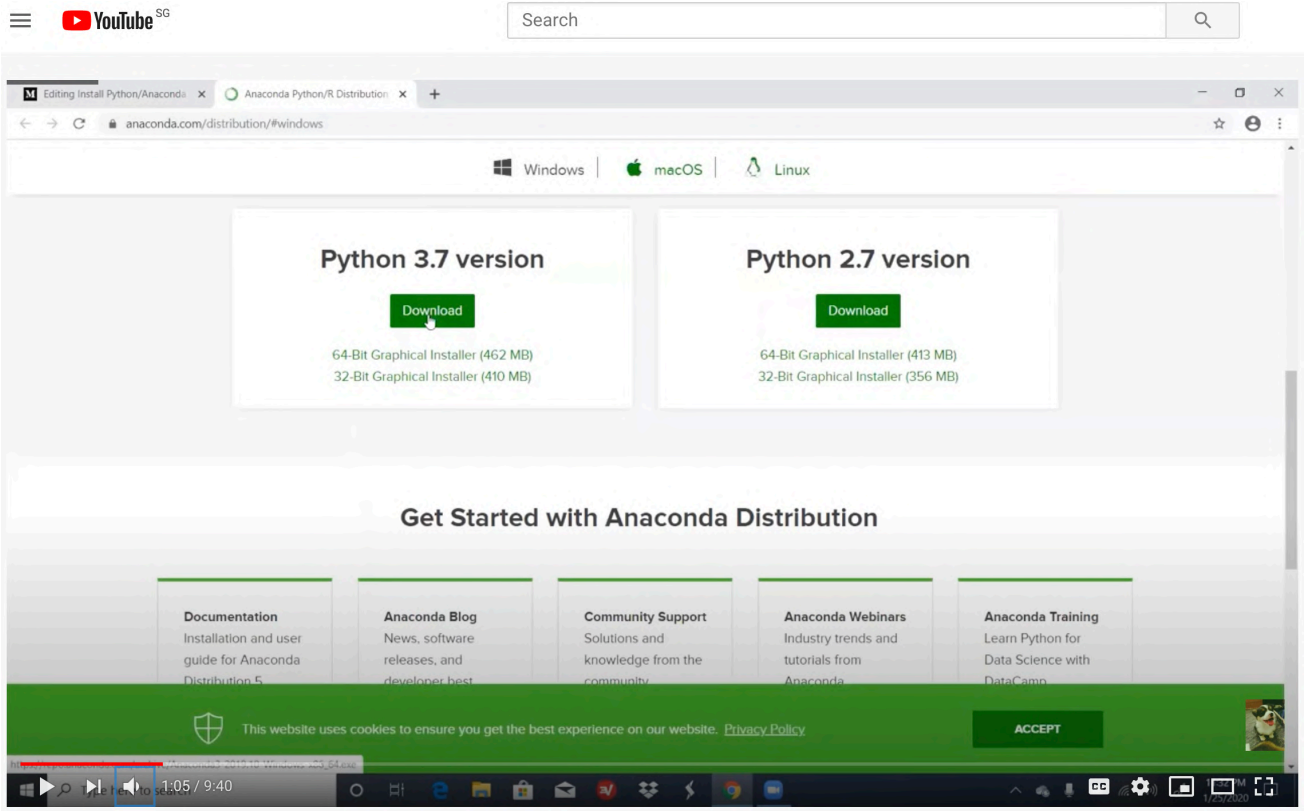
Michael Galarnyk Follow

Jan 27 · 6 min read

Anaconda is a package manager, an environment manager, and Python distribution that contains a collection of many open source packages (numpy, scikit-learn, scipy, pandas to name a few). If you need additional packages after installing Anaconda, you can use Anaconda's package manager, conda or pip to install those packages. This is highly advantageous as you don't have to manage dependencies between multiple packages yourself. Conda even makes it easy to switch between Python 2 and 3 (you can learn more about it here). In fact, an installation of Anaconda is also a common way to install Jupyter Notebooks.

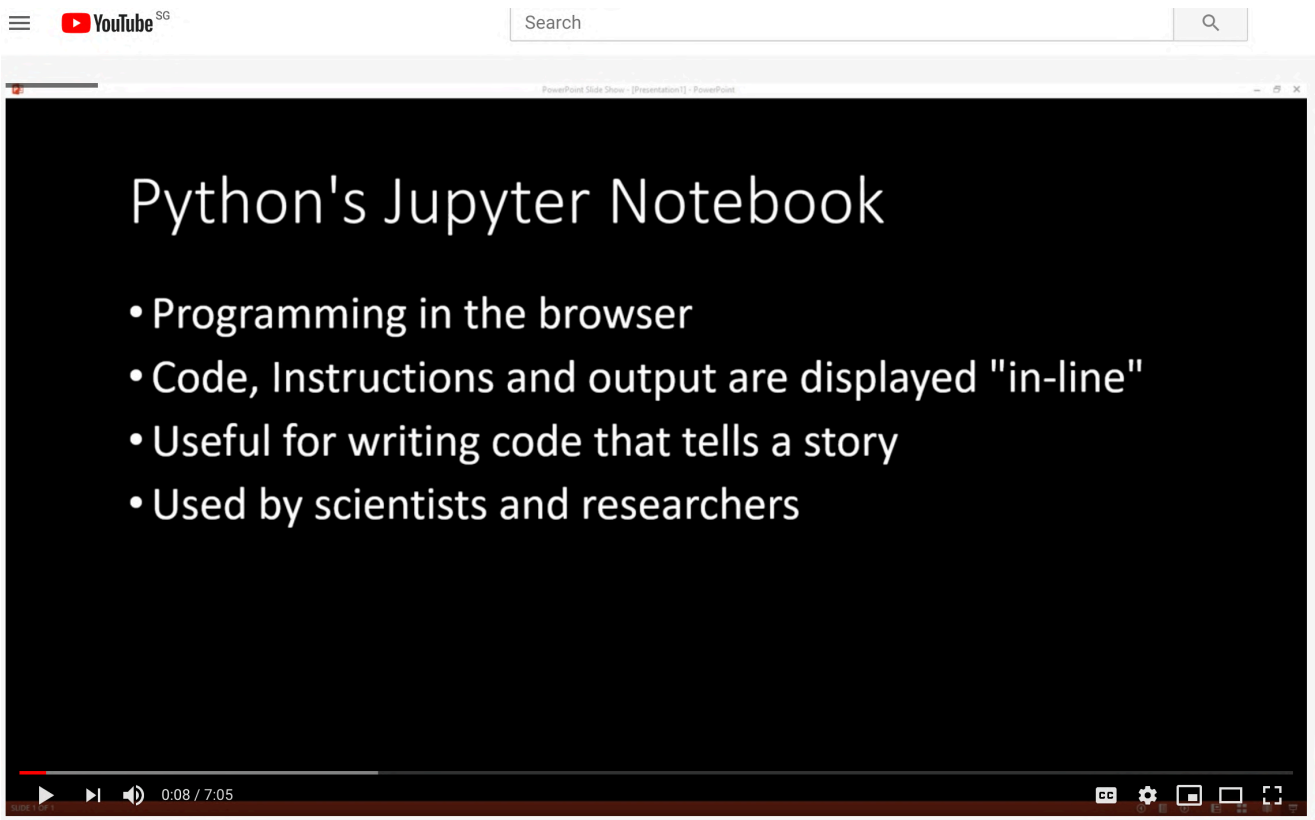
Video: Install Anaconda and Jupyter on Windows (2020)

https://youtu.be/uOwCiZKj2rg

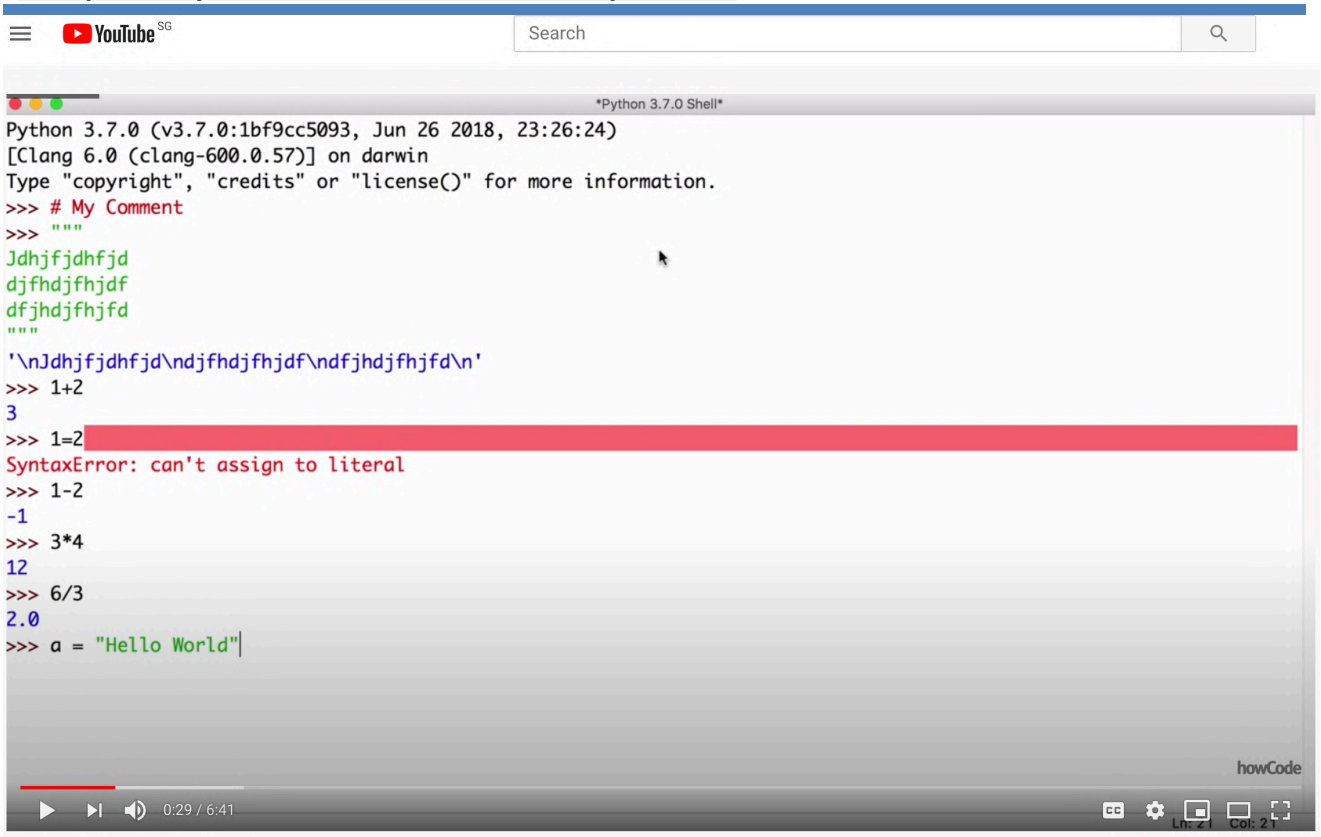


Video: Introduction to Jupyter Notebook

https://youtu.be/jZ952vChhuI



Video: Learn Python in 5 minutes
https://youtu.be/I2wURDqiXdM



Useful Links

1. **Install Anaconda/Jupyter on Windows**
   https://medium.com/@GalarnykMichael/f8e188f9a63d
2. **Install Anaconda/Jupyter on Windows (9:41)**
   https://youtu.be/uOwCiZKj2rg
3. **Intro to Jupyter Notebook (7:05)**
   https://youtu.be/jZ952vChhuI
4. **Learn Python in 5 Minutes (6:41)**
   https://youtu.be/I2wURDqiXdM
5. **Python Fundamentals**
   http://people.uncw.edu/chenc/STT592_Deep%20Learning/Python/python_intro.pdf
   http://people.uncw.edu/chenc/STT592_Deep%20Learning/Python/python_tutorial2.pdf
6. **Python Cheat Sheet**
   http://www.utc.fr/~jlaforet/Suppl/python-cheatsheets.pdf
   https://ehmatthes.github.io/pcc/cheatsheets/README.html