MACHINE LEARNING USING JUPYTER NOTEBOOKS ON GRAHAM

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JUPYTER NOTEBOOK

- **Open-source web application**
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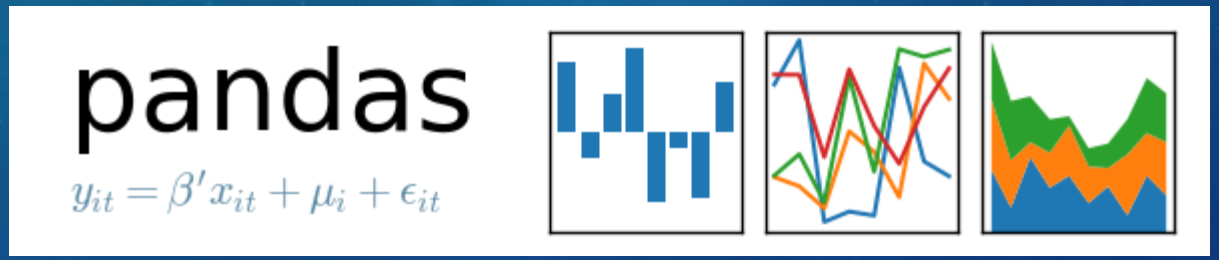
- **allows you to create and share documents that contain live code, equations, visualizations and narrative text.**
- **Uses: data cleaning and transformation, data visualization, machine learning, etc.**

PYTHON DATA ANALYSIS LIBRARY (PANDAS)

- *pandas* is an open source, BSD-licensed library providing high-performance, easy-to-use data structures and data analysis tools for Python.



MATPLOTLIB

- Python 2D plotting library which produces publication quality figures in a variety of hardcopy formats and interactive environments across platforms.
- Matplotlib can be used in Python scripts, jupyter notebook, web application servers, and four graphical user interface toolkits.

SKLEARN

- Simple and efficient tools for data mining and data analysis
- Built on NumPy, SciPy, and matplotlib
- Open source, commercially usable - BSD license
- Mathematical models:
  - Classification
  - Regression (example today)
  - Clustering
  - Dimensionality reduction
  - Model selection (example today)
  - Preprocessing

REFERENCES

- http://scikit-learn.org/stable/
- http://jupyter.org/documentation.html
- http://pandas.pydata.org/
- https://matplotlib.org/
- http://spark.apache.org/docs/latest/api/python/index.html
- Get the notebooks from: https://github.com/JNandez/jupyter_sharcnet_graham