

Python, numpy, matplotlib: a crash course

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The plan

ipython: the best way to learn Python (and poke at objects)

Python tutorial: syntax, core types, useful libraries

Numpy: a quite useful array library (how I learned to stop worrying and love implicit loops)

Scipy: a hodgepodge of useful data-analysis tools

Matplotlib: MATLAB-esque plotting in Python

Exercise: generate some random numbers, fill them into a histogram, and fit a distribution

Demo repository

Demonstration scripts will go here:

[http://code.icecube.wisc.edu/svn/sandbox/jvansanten/
bootcamp12](http://code.icecube.wisc.edu/svn/sandbox/jvansanten/bootcamp12)

(Check it out)

Useful resources

Python.org tutorial: <http://docs.python.org/tutorial/>

Dive into Python: <http://www.diveintopython.net/>

Numpy tutorial: [http://www.scipy.org/Tentative NumPy Tutorial](http://www.scipy.org/Tentative_NumPy_Tutorial)

Scipy cookbook: <http://www.scipy.org/Cookbook>

IceTray recipes: <http://wiki.icecube.wisc.edu/index.php/>

[Python IceTray Recipes](#)

IceCube Python mailing list: <http://lists.icecube.wisc.edu/mailman/listinfo/python>