



Building an Open Platform for Sustaining Data Science Innovation

A Whirlwind Tour of NumFOCUS Projects

Presented by ANDY R TERREL, PHD
at SUPERCOMPUTING 18,
BOF - Software Engineering and Reuse in
Computational Science and Engineering
on Nov 14, 2018



OPEN CODE = BETTER SCIENCE

MISSION



Promote sustainable high-level programming languages, open code development, and reproducible scientific research.

NUMFOCUS

WE ACCOMPLISH THIS MISSION.

EDUCATIONAL PROGRAMS

Scholarships,
Diversity,
Sustainability



FISCAL SPONSORSHIP

Legal and Fiscal services



EVENTS

Conferences and Meetups



DATA SCIENCE AND SCIENTIFIC COMPUTING COMMUNITY

Common challenges and communication



FIRST



BUILD TOOLS FOR SCIENCE

Yes, science happens everywhere. Corporations, laboratories, backyards, in trenches.

SECOND



BE KIND TO EACH OTHER

Write down a code of conduct, tell the world how you make decisions, share your decisions

THIRD



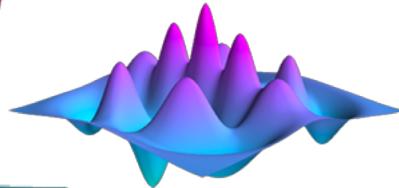
LEAD OPENLY

More than a license, but take comments in public, develop on an open platform, use best practices so all can see.



scikit-bio

MD
ANALYSIS



sunpy

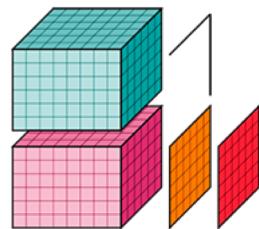
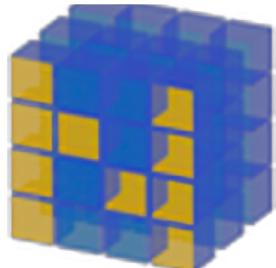
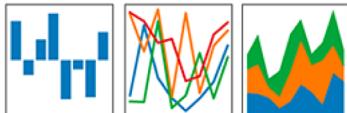


numfocus.org

Domain Experience

pandas

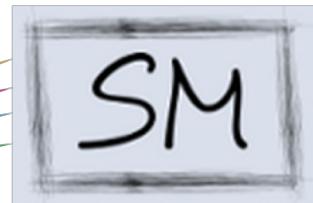
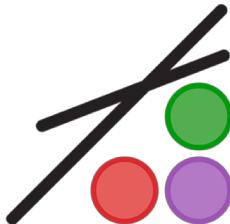
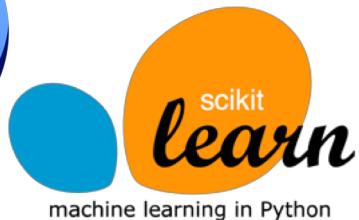
$$y_{it} = \beta' x_{it} + \mu_i + \epsilon_{it}$$



xarray



Data Wrangling



將軍
sho gun

Econ
ARK



Modelling

julia



DASK

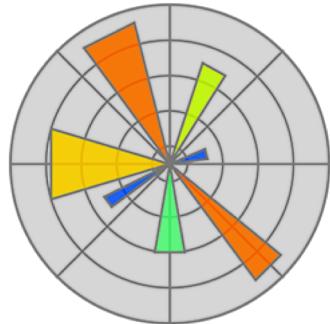


theano

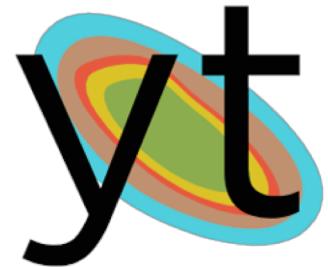


IP[y]:
IPython

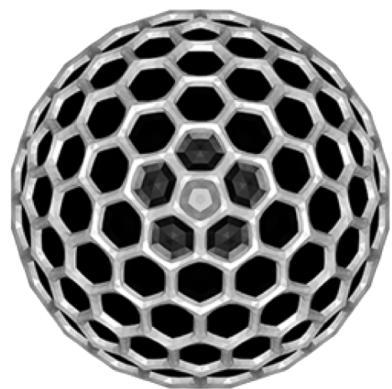
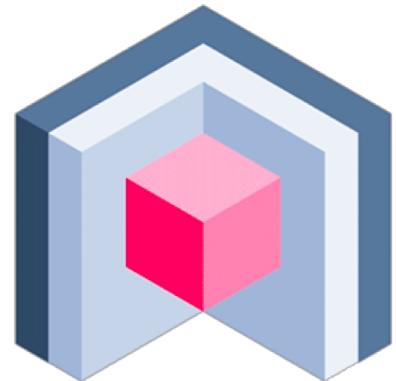
Computation



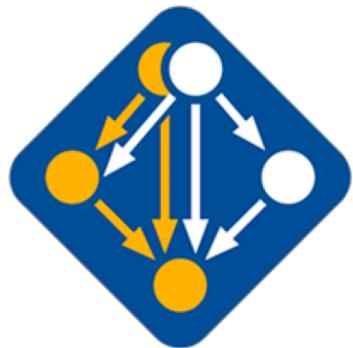
The logo for orange, featuring the word "orange" in a stylized orange font where the letter "g" is replaced by a magnifying glass icon. The magnifying glass has a black frame and a light blue circular center.



Visualize the Result



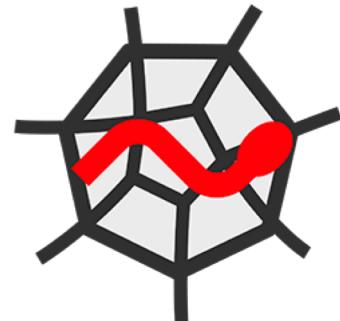
Share the Story



CONDA



CONDA-FORGE



SPYDER



python(x,y)

Tools to Build

The Ongoing Struggle

