IP[y]: IPython

Berkeley Division of Data Sciences

jupyter

Scientific Open Source Software: sustainability is about more than code

Fernando Pérez

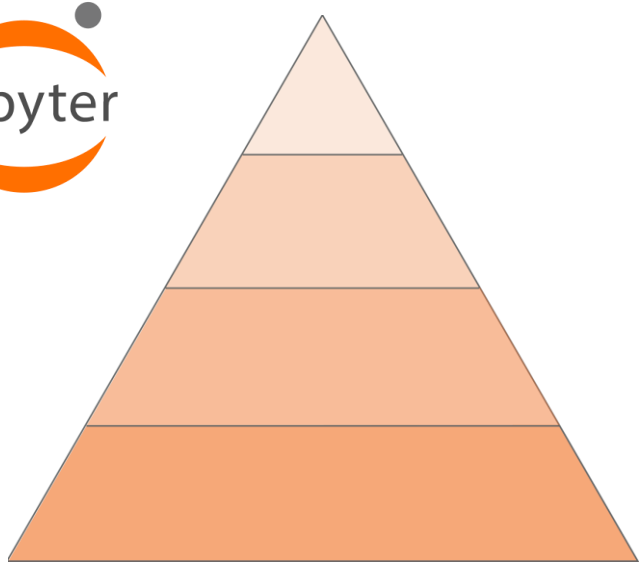
These slides: https://bit.ly/ostp-sust

BIDS BERKELEY INSTITUTE FOR DATA SCIENCE

University of California, Berkeley
DEPARTMENT OF STATISTICS

BERKELEY LAB

OSS: more than software



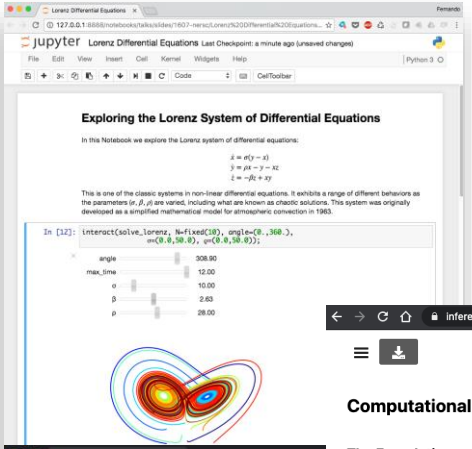
Services and content

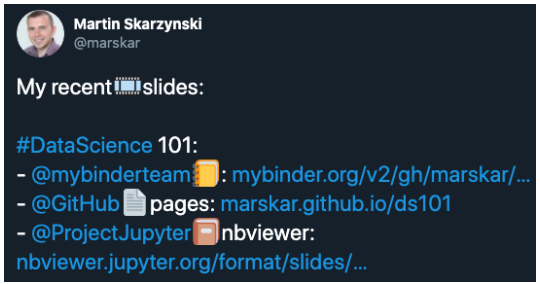
(Extensible) Software

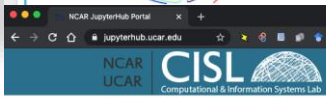
Standards and Protocols

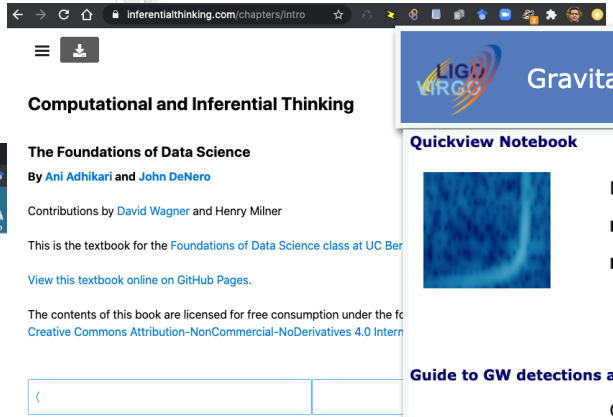
Community

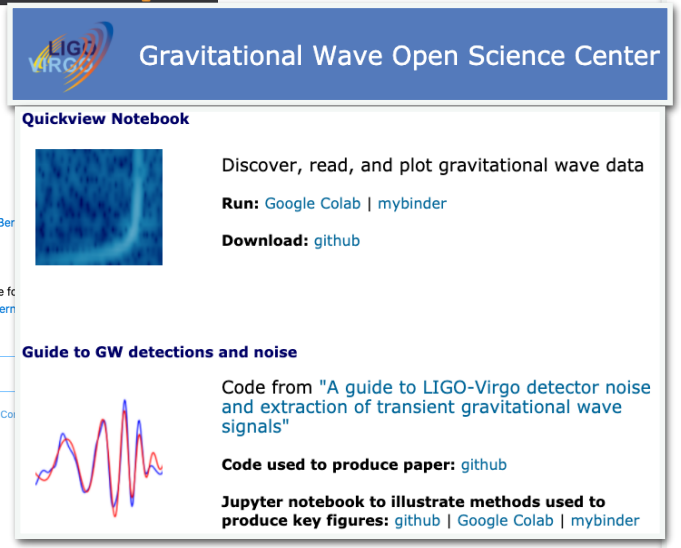
Content/Services

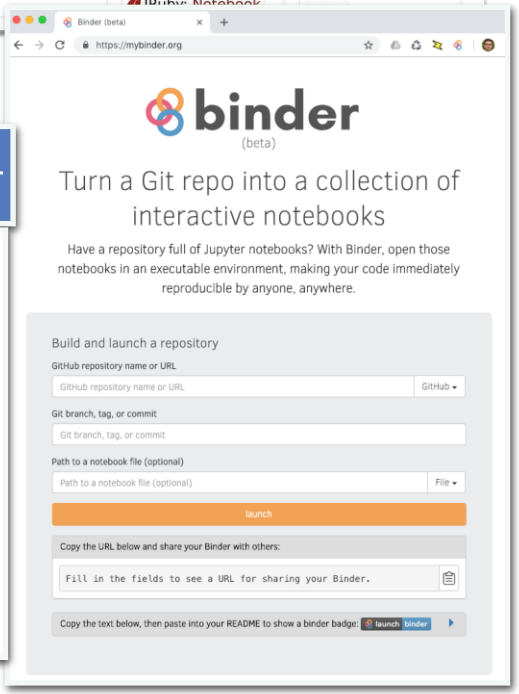


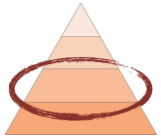












A language agnostic protocol

Scala

perl

R

jupyter

julia

ERLANG

Spark

python

IP[y]:
IPython

~100 different kernels: https://github.com/jupyter/jupyter/wiki/Jupyter-kernels

Community: formalized governance

Me :)

Brian Granger

Cal Poly, Amazon

Institutional Partners

Institutional Partners are organizations that support the project by employing Jupyter Steering Council members. Current Institutional Partners include:

ANACONDA · Bloomberg · NETFLIX · CAL POLY SAN LUIS OBISPO · Berkeley UNIVERSITY OF CALIFORNIA · QuantStack Scientific Computing · TWO SIGMA · JPMORGAN CHASE & CO. · UNIVERSITY OF CALIFORNIA MERCED · aws

Sponsors

Project Jupyter receives direct funding from the following sources:

HELMSLEY CHARITABLE TRUST · ALFRED P. SLOAN FOUNDATION · GORDON AND BETTY MOORE FOUNDATION · Google · rackspace the #1 managed cloud company · fastly · Microsoft · QUANSIGHT · SCHMIDT FUTURES

Steering Council

The role of the Jupyter Steering Council is to ensure, through working with and serving the broader Jupyter community, the long-term well-being of the project, both technically and as a community. The Jupyter Steering Council currently consists of the following members (in alphabetical order).

Damian Avila

Anaconda, Inc.

@damianavila on GitHub

Matthias Bussonnier

UC Merced

@Carreau on GitHub

Sylvain Corlay

QuantStack

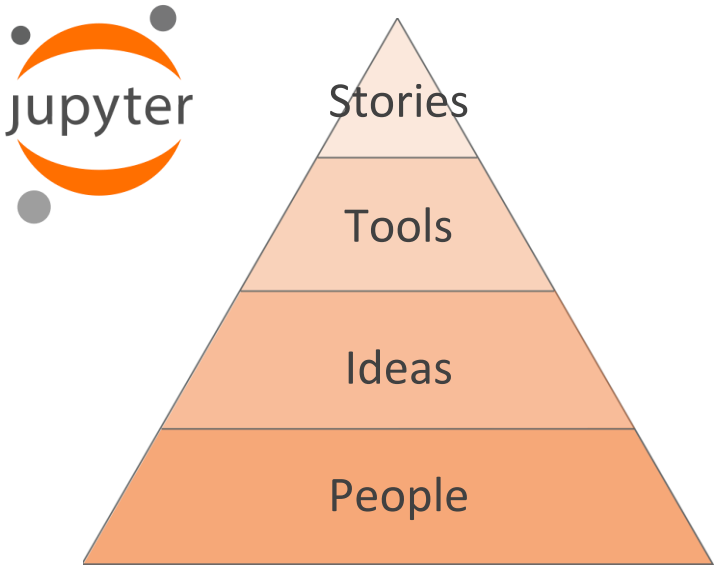
@sylvaincorlay on GitHub

Formal fiscal sponsorship

NUMFOCUS

OPEN CODE = BETTER SCIENCE

More than software, woven into science



Services and content: end-user impact

Software

Standards and Protocols: ecosystem

Community: innovation & resiliency

OSS today: beyond code & licenses

- Fluid, iterative
  - Design evolves through usage
- Two-way dialog
  - Users are contributors/developers.
- Multi-stakeholder
  - Academia, govt, industry, volunteers...
- Open beyond licensing
  - Governance, project management, design…

Interactive Notebooks

Visual Studio Code

jupyter

RStudio

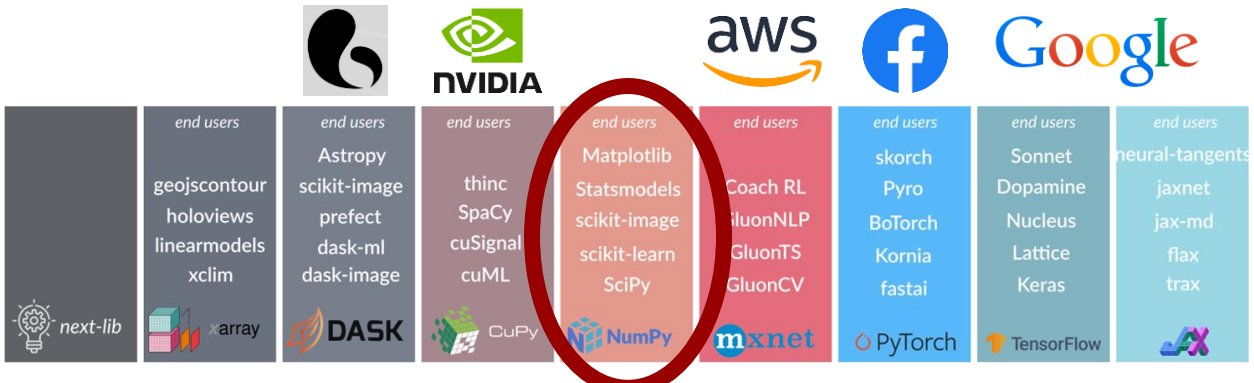
Google colab

WOLFRAM

Science/education at the OSS table

Interoperable ecosystems need all stakeholders to have a voice

N-dimensional arrays and tensors



Federal funding/strategy can contribute to sustainable Scientific OSS

Support new roles, communities and organizations

Different from traditional PI-centric teams!

"Any opinions, findings, conclusions or recommendations expressed in this material are those of the author(s) and do not necessarily reflect the views of the Networking and Information Technology Research and Development Program."

The Networking and Information Technology Research and Development (NITRD) Program

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