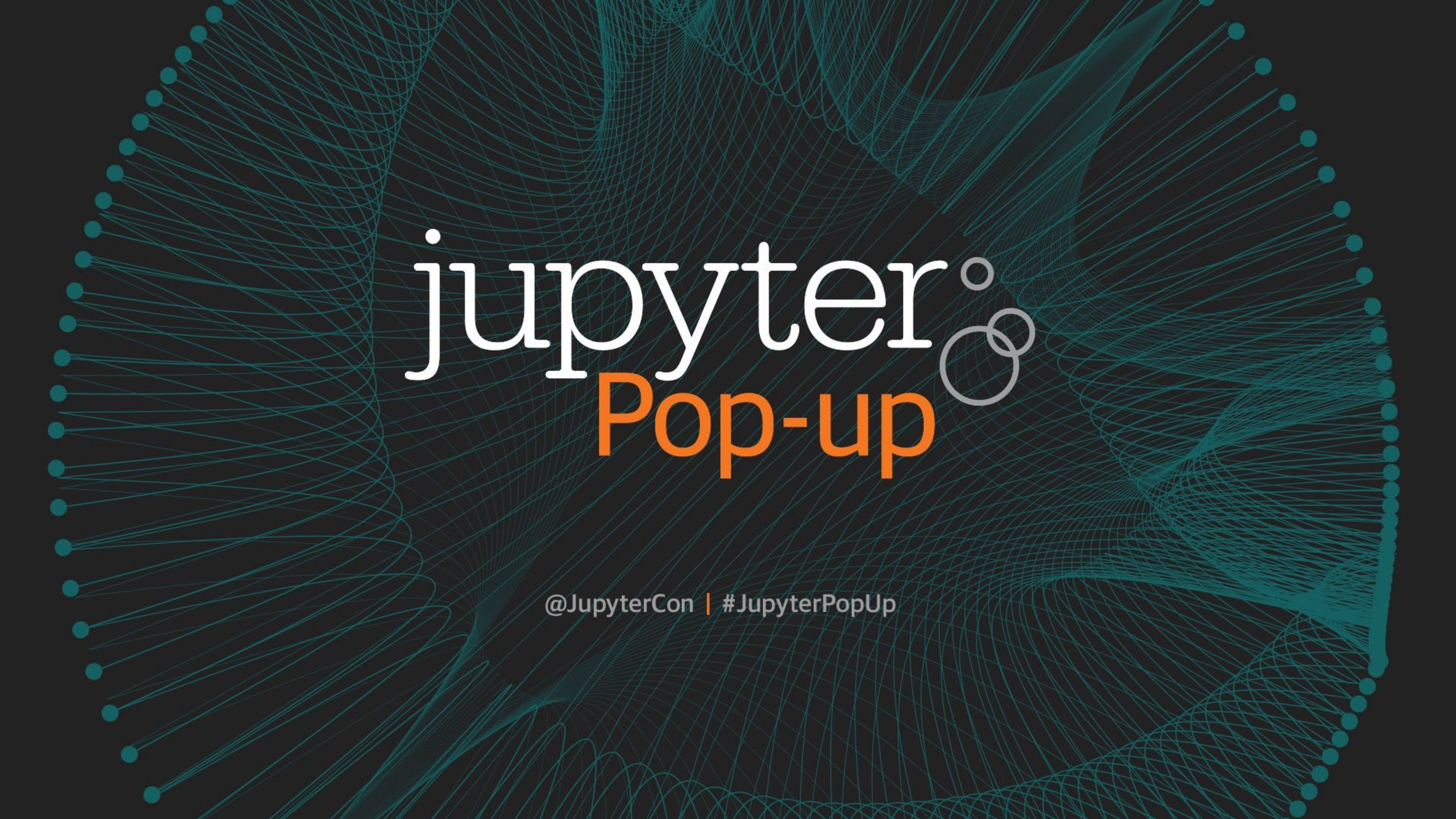
jupyter
Pop-up
@JupyterCon | #JupyterPopUp

Luciano Resende & Kevin Bates	30 min talk	09:10 - 09:40
Scott Sanderson	30 min talk	09:40 - 10:10
30 min Coffee Break	Coffee Break	10:10 - 10:40
Matthias Bussonnier	50 min keynote	10:40 - 11:30
Chelsea Douglas	30 min talk	11:30 - 12:00
Chakri Cherukuri	30 min talk	12:00 - 12:30
30 min Lunch	Lunch	12:30 - 13:00
Douglas Blank	30 min talk	13:00 - 13:30
Panel - Allen Downey	45 min panel	13:30 - 14:15
Panel - Taylor Martin	45 min panel	13:30 - 14:15
Panel - Douglas Blank	45 min panel	13:30 - 14:15
15 min Coffee Break	Coffee Break	14:15 - 14:30
Colin Carroll	30 min talk	14:30 - 15:00
Ryan Cooper & David Koop	30 min talk	15:00 - 15:30
Colin Brown	30 min talk	15:30 - 16:00
Dave Stuart	30 min talk	16:00 - 16:30
Roope Astala	30 min talk	16:30 - 17:00
Aaron Williams	30 min talk	17:00 - 17:30

State of Jupyter

March 21st, 2018

Matthias Bussonnier

bussonniermatthias@gmail.com
GitHub: @carreau
Twitter: @mbussonn


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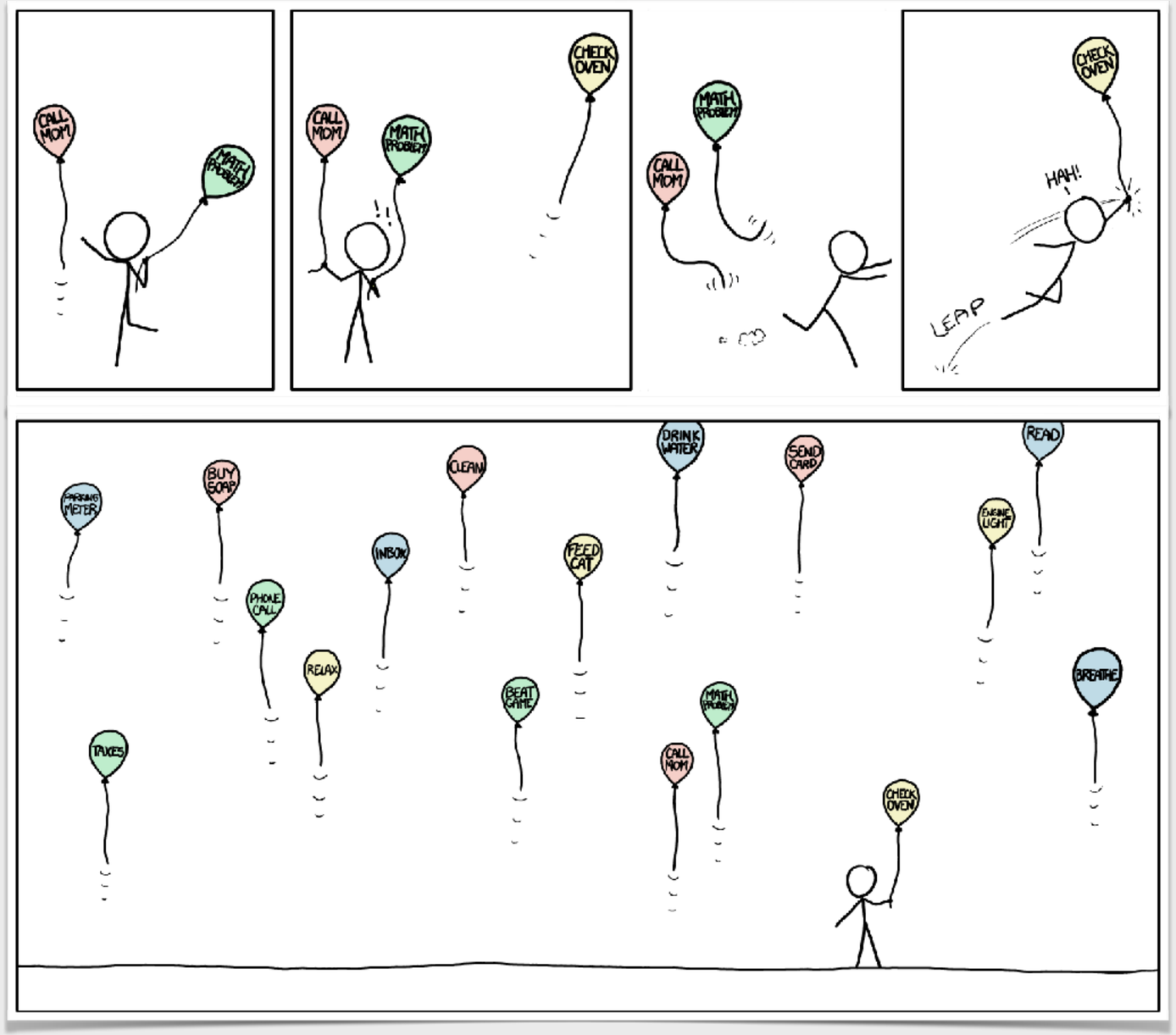
OPEN CODE = BETTER SCIENCE

About Me

Matthias Bussonnier

Core developer of IPython/Jupyter since 2012,

Founding and Steering Council member.



Randall Munroe
(https://xkcd.com/1106/)

IPython – 2001

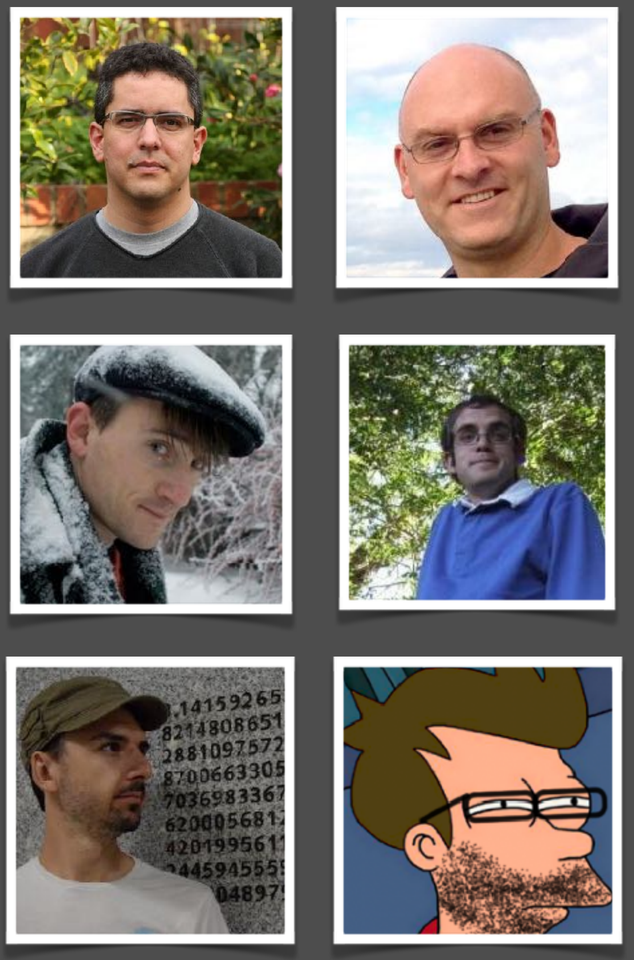
IPython

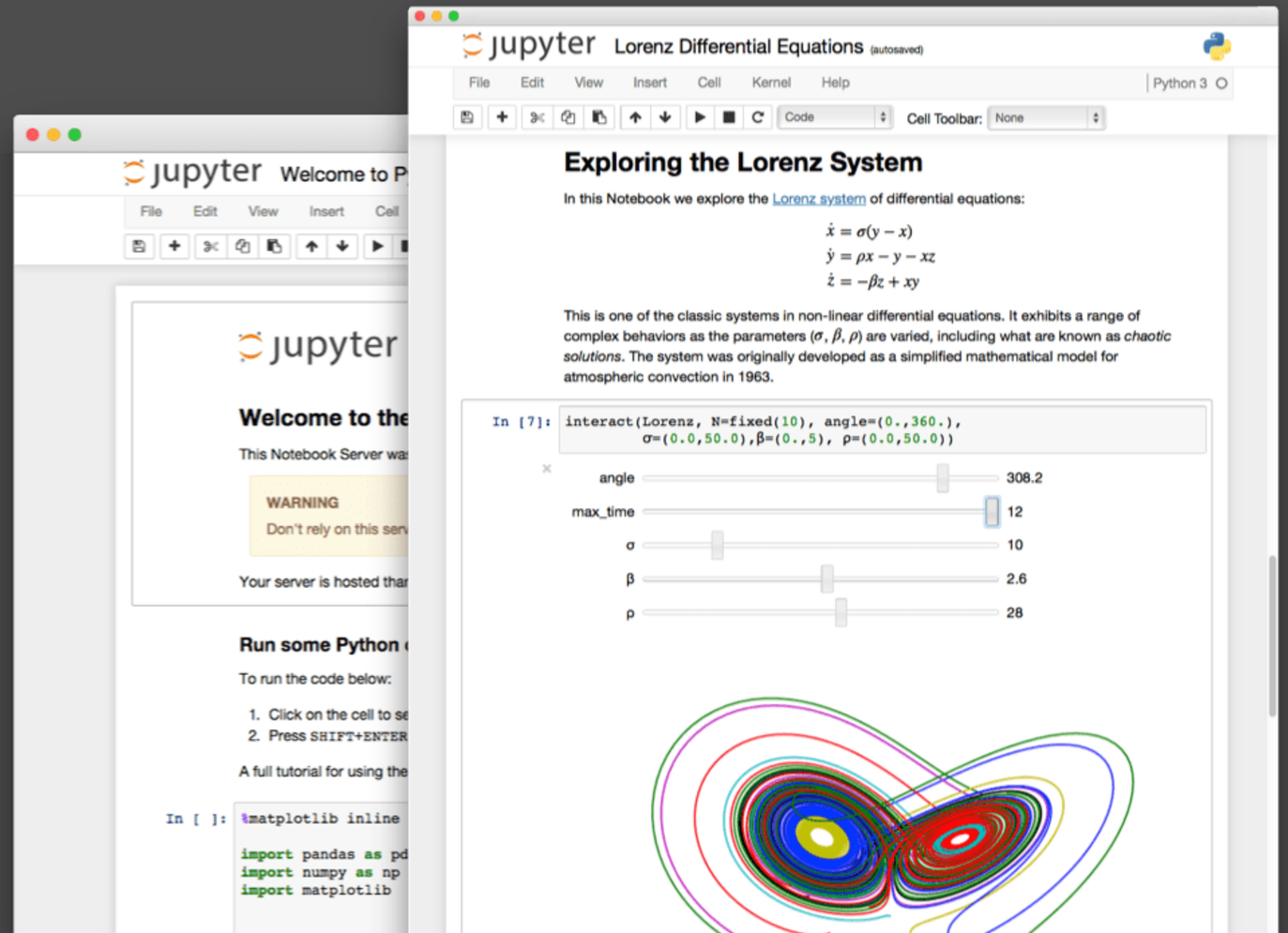
```
$ ipython
Python 3.6.0
Type 'copyright', 'credits' or 'license' for more information
IPython 6.0.0.dev -- An enhanced Interactive Python. Type '?' for help.

In [1]: from string import hexdigits
   ...: from random import choice
   ...:
   ...: def randhex(length=10):
   ...:     return '0x'+''.join([choice(hexdigits) for x in range(10)]).l
                                                                    ljust
                                                                    lower
                                                                    lstrip
```

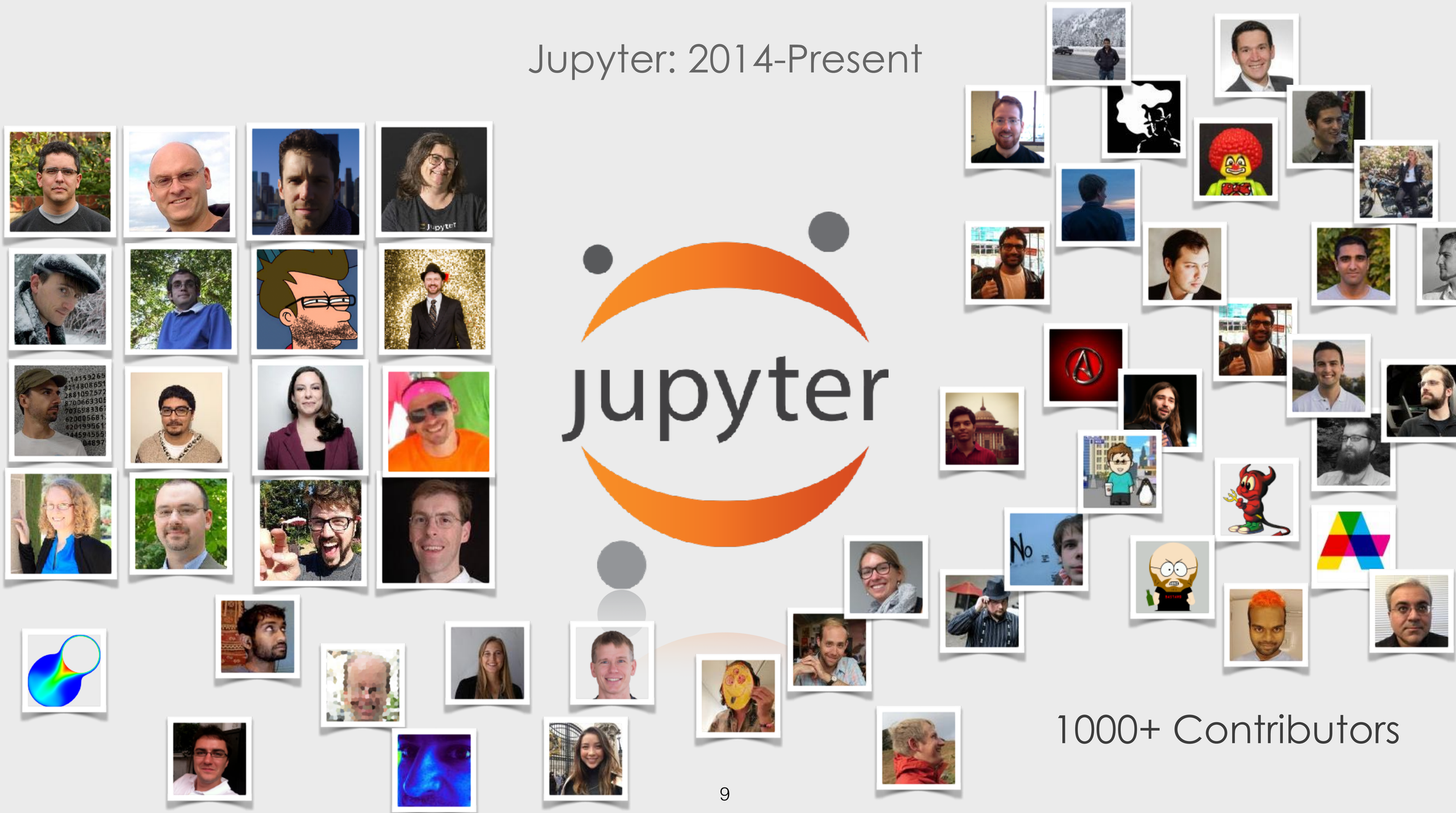
(BTW, IPython is uppercase I)

The Notebook – 2012





Jupyter: 2014-Present



1000+ Contributors

~ 20 core members

~1/2 academics
&1/2 private sector

For the majority:
Not a Full-Time Job


ANACONDA


Bloomberg


NETFLIX


CAL POLY
SAN LUIS OBISPO


Berkeley
UNIVERSITY OF CALIFORNIA


QuantStack
Scientific Computing


QUANSIGHT


GORDON AND BETTY
MOORE
FOUNDATION


Alfred P. Sloan
FOUNDATION


THE LEONA M. AND HARRY B.
HELMSLEY
CHARITABLE TRUST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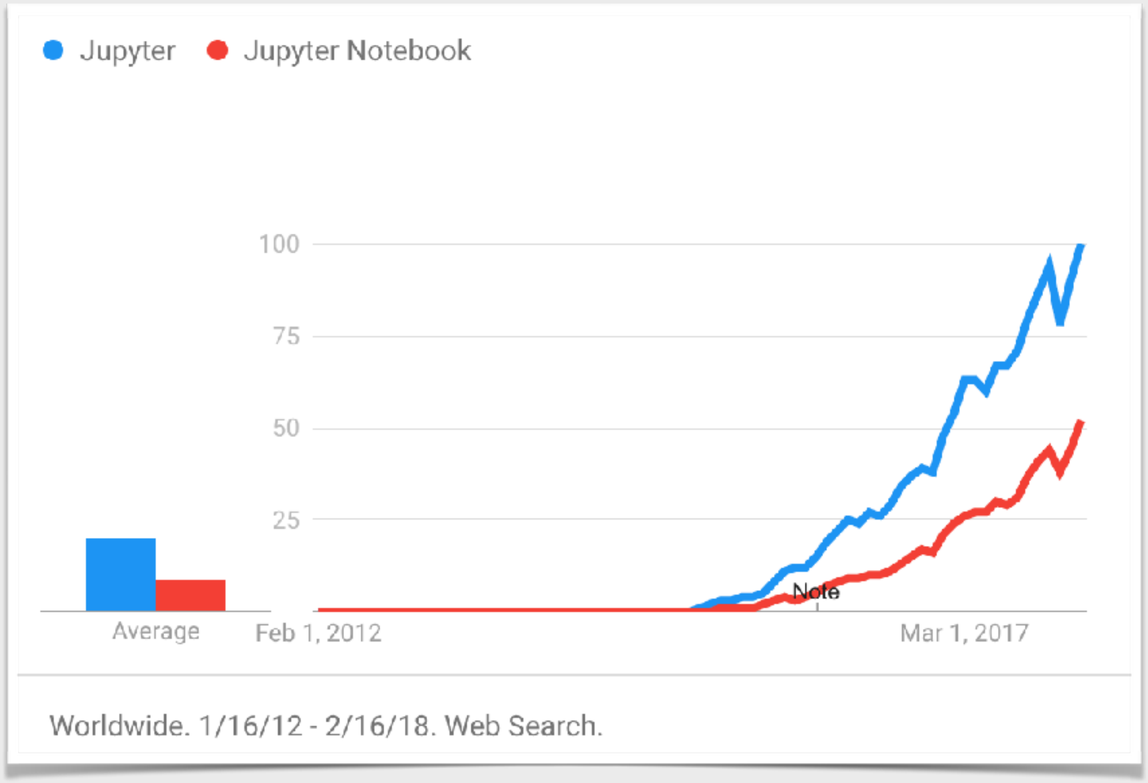
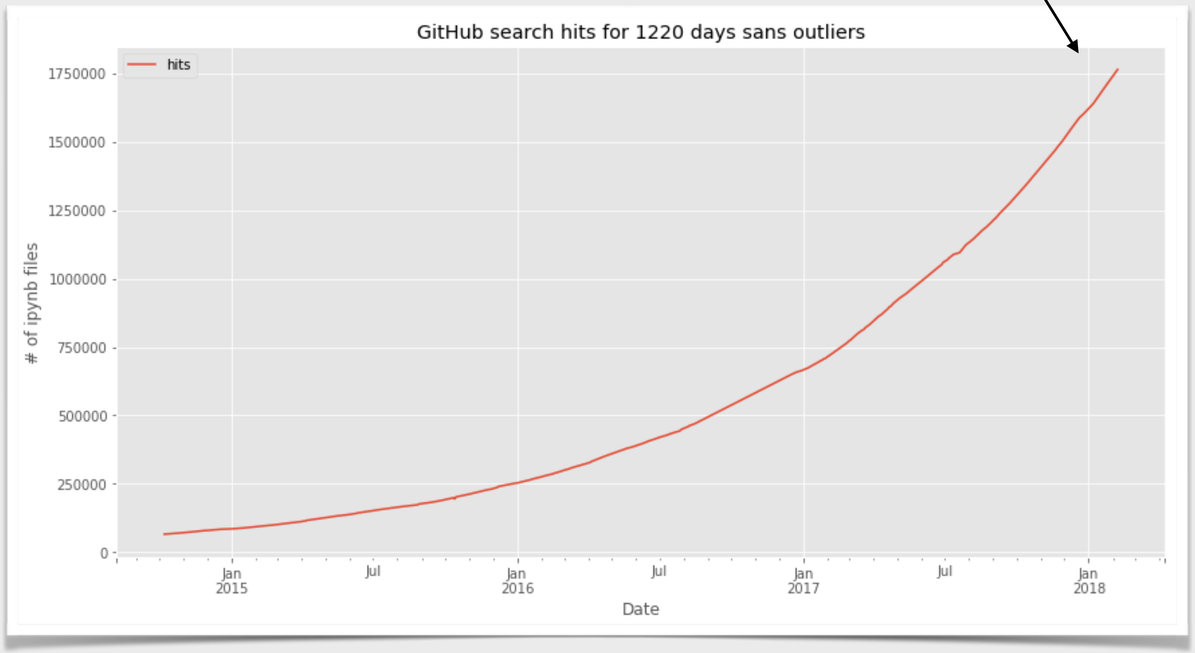
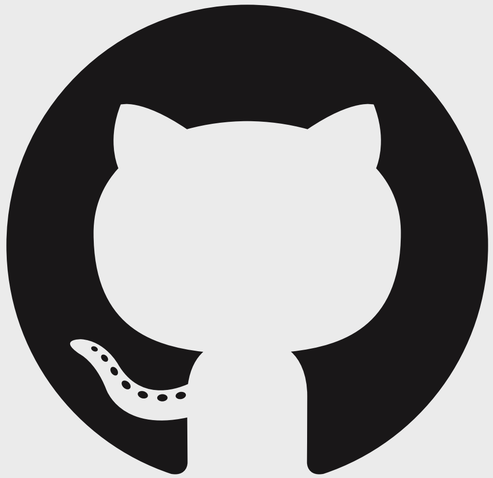
A few Numbers



~1.7M notebooks
on GitHub in Jan 2018



https://github.com/parente/nbestimate



150+ repositories across multiple organisations

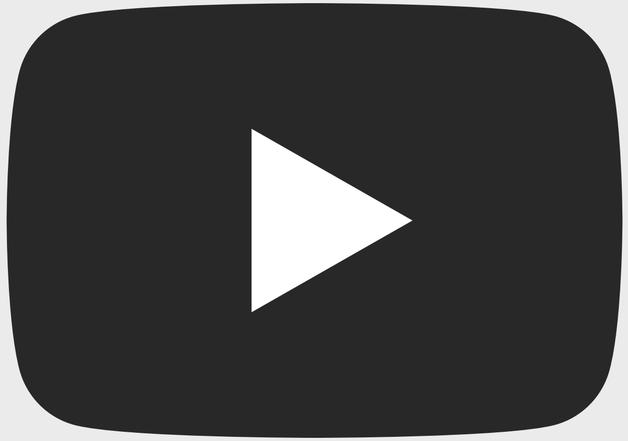
(IPython, Jupyter, JupyterHub, JupyterLab, ...)
at 2 release/year that's ~ 1 release per day

1000+ Contributors

8+ Millions Users,

(with conservative estimates)

Worldwide ~21M developers – North America ~4.4M
VS Code ~2.6 M Active Users
GitHub 24M Users

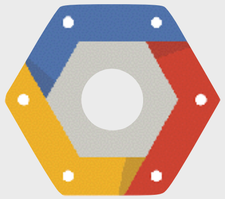


youtube.com/c/ipython

Developers meetings are recorded and available online

Education

Jupyter in education



GRYD

• • •

Azure Notebook

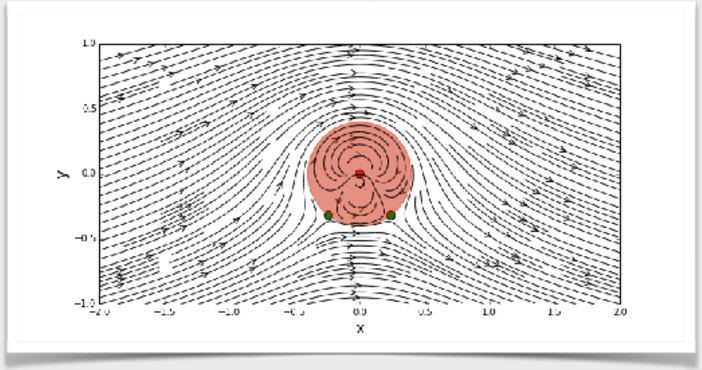
- NBGrader
- Multiple Extensions

DataHub

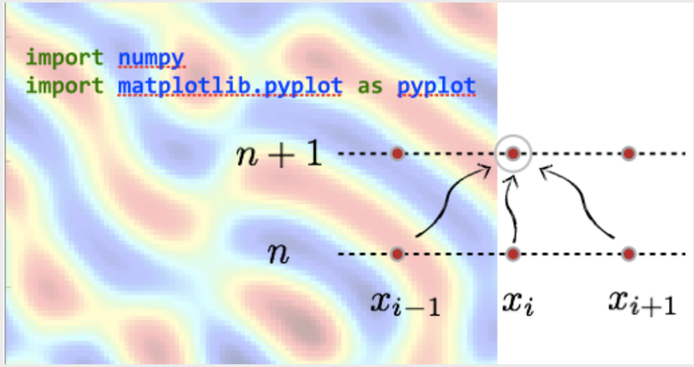
datahub.berkeley.edu

2 500+ Students

http://www.ds100.org/



AeroPython



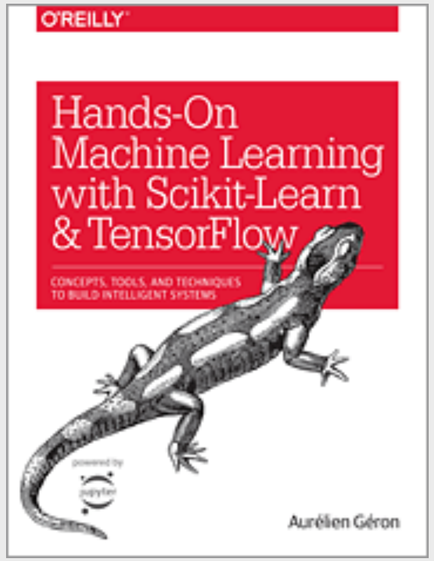
Numerical Mooc

Jupyter Notebook is and will be the platform used in Data Science

Education Mailing List

jupyter-education@googlegroups.com

Jupyter ❤️Machine Learning/AI



kaggle

Keras

TensorFlow

Amazon SageMaker

R-Brain

Google Colaboratory

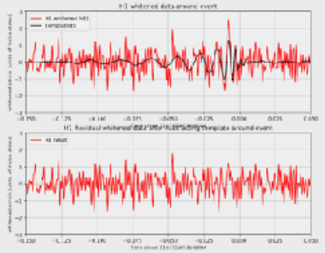
GRYD

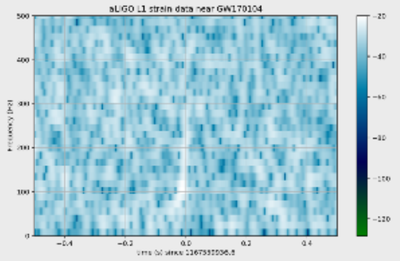
CODE OCEAN

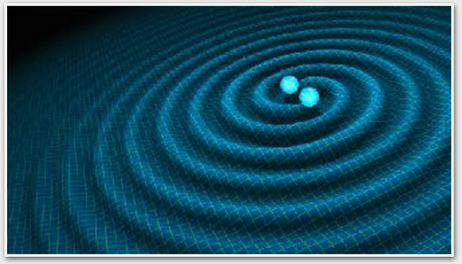
• • •

Jupyter in Science and HPC

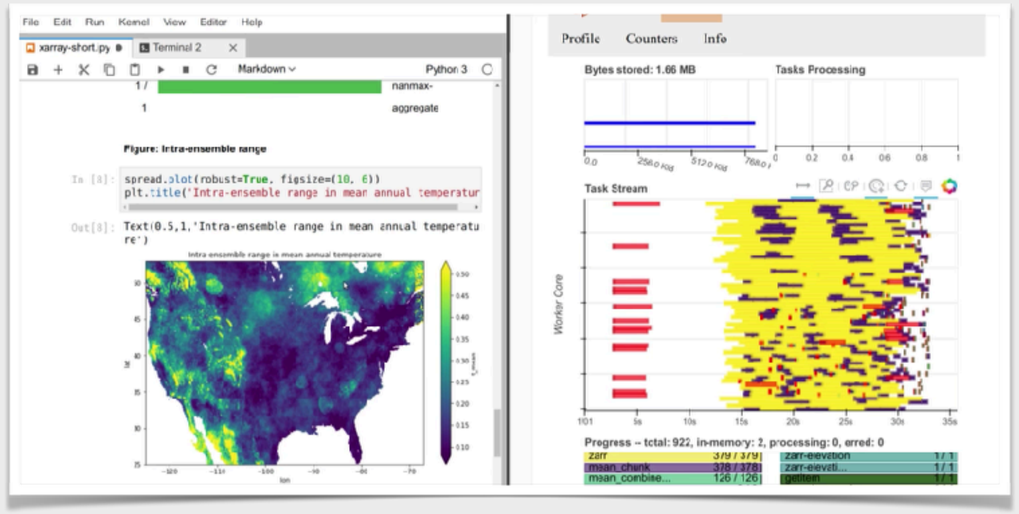
Ligo (Gravitational waves discovery)







In the cloud Climate Science (Pangeo)

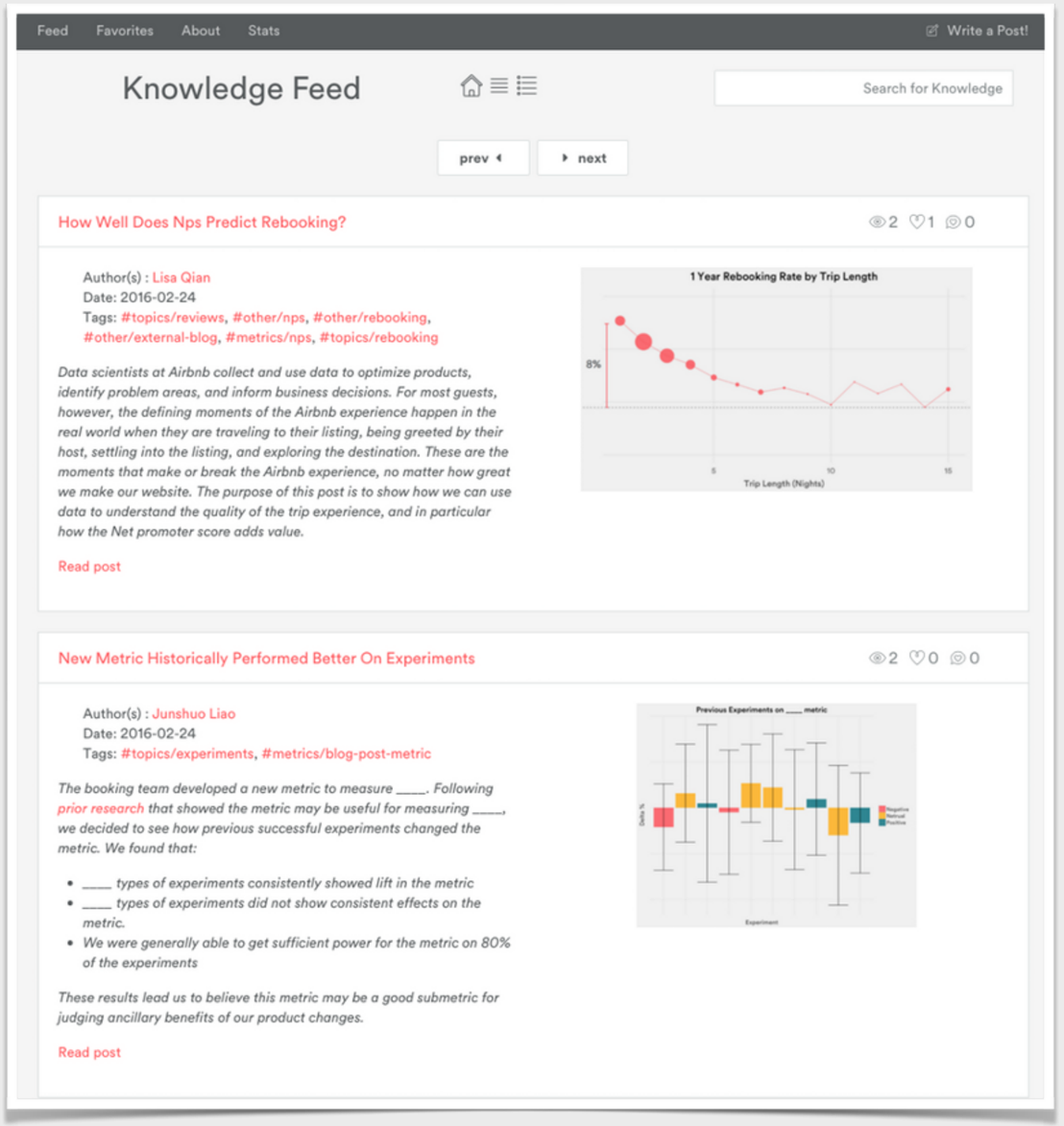


pangeo-data.github.io

Replacing traditional HPC/SSH workflow ?

Customised Notebooks

Knowledge Repo



NodeBook

STITCH FIX

Nodebook

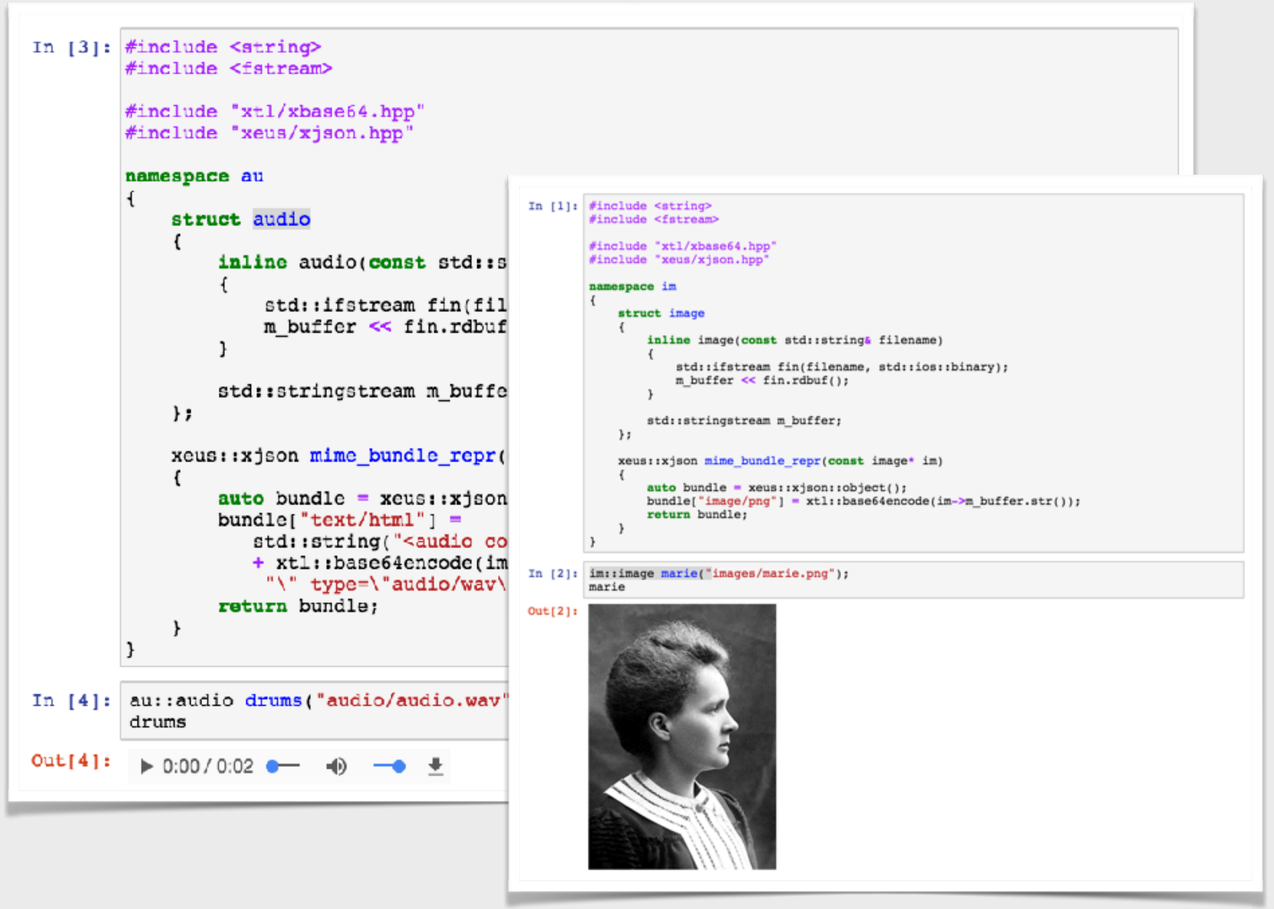
Tools Integrations

Tools Integrations

Kernels: Python, Julia, R, Haskell, Perl, Fortran, Ruby, Javascript, C/C++, Go, Scala, Elixir... 60+

julia

eus
Cling

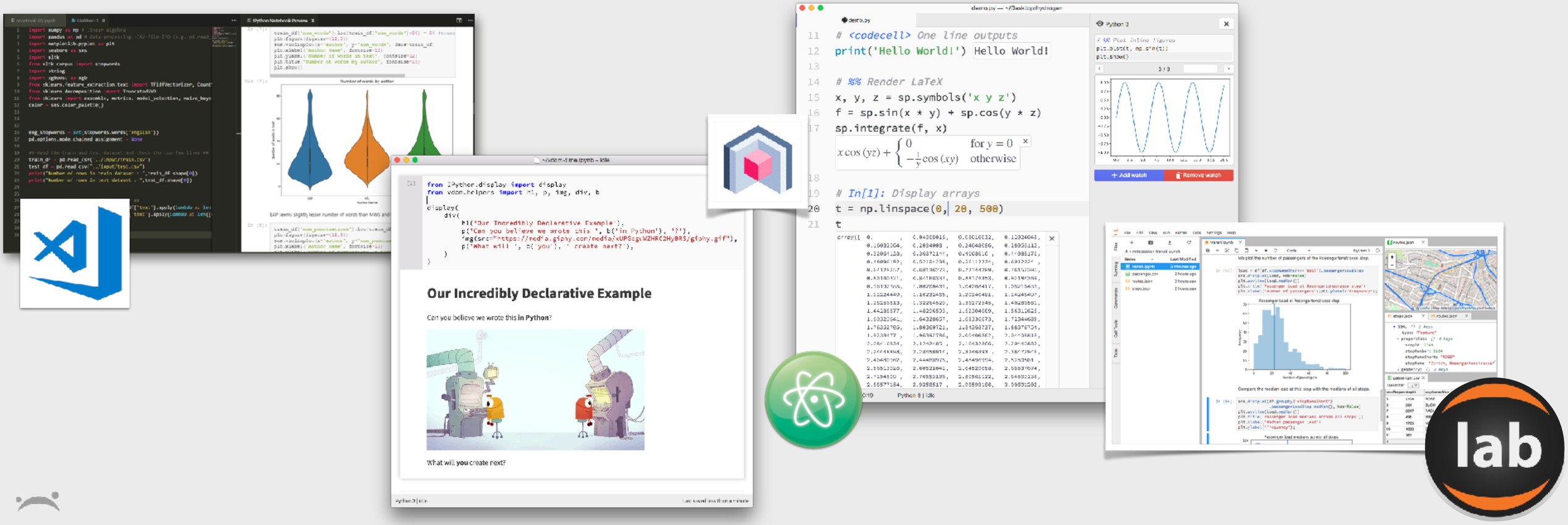


QuantStack

https://github.com/QuantStack/

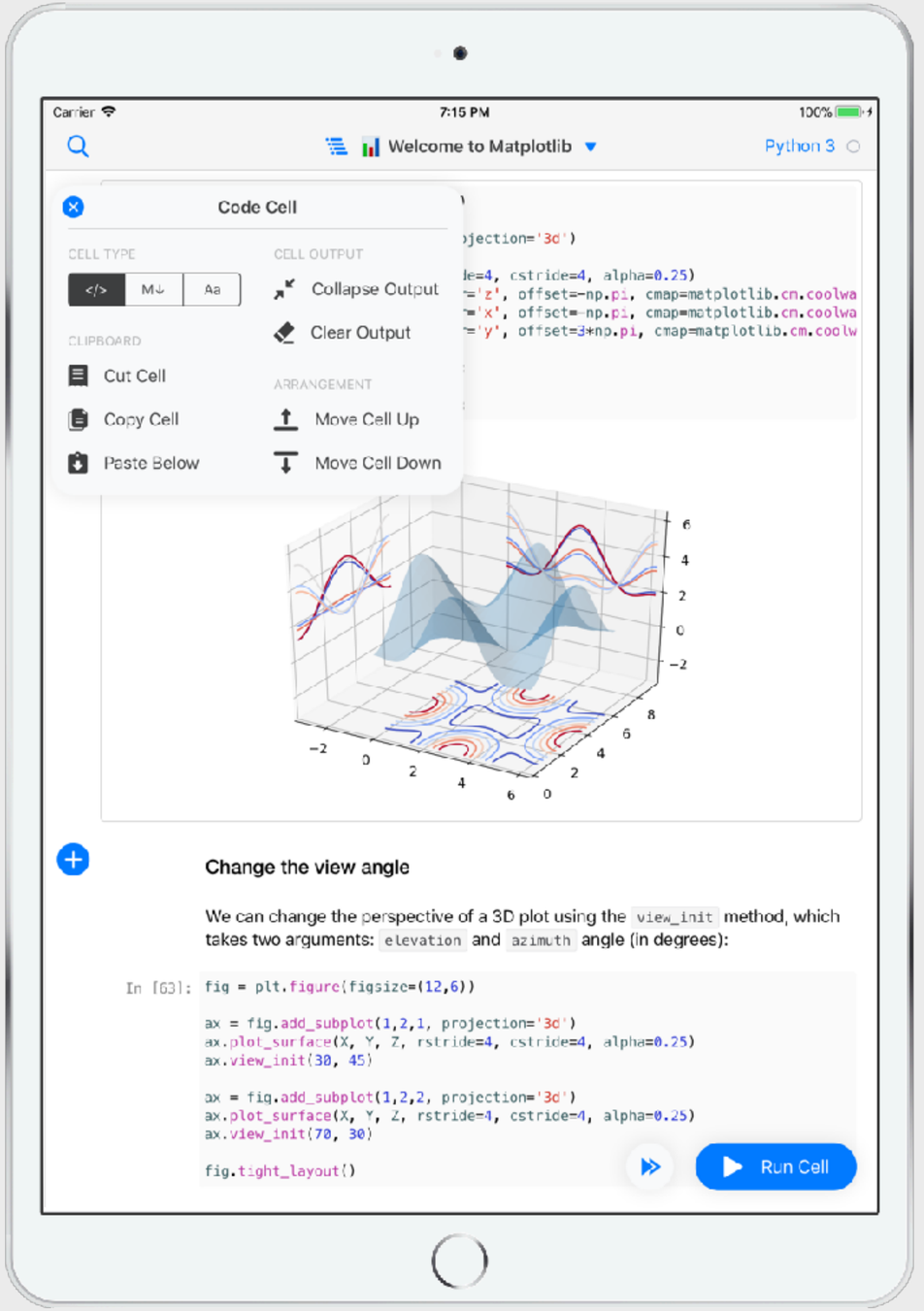
Tools Integrations

Frontends: Notebook, JupyterLab, CLI, Vim, Emacs, Visual Studio Code, Atom, Nteract, Juno...

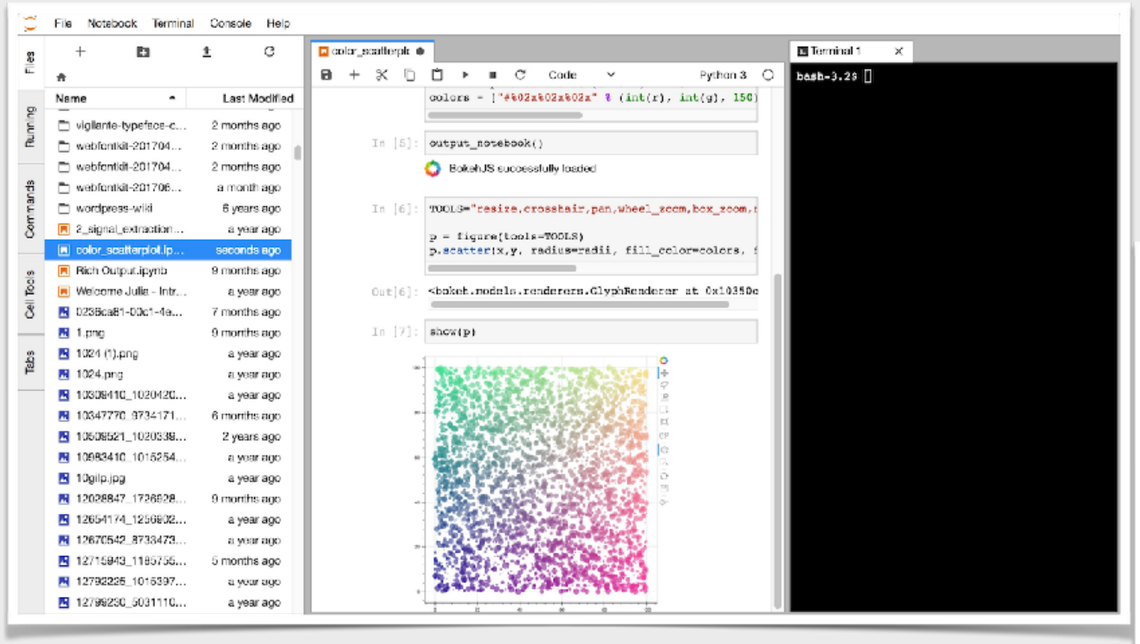


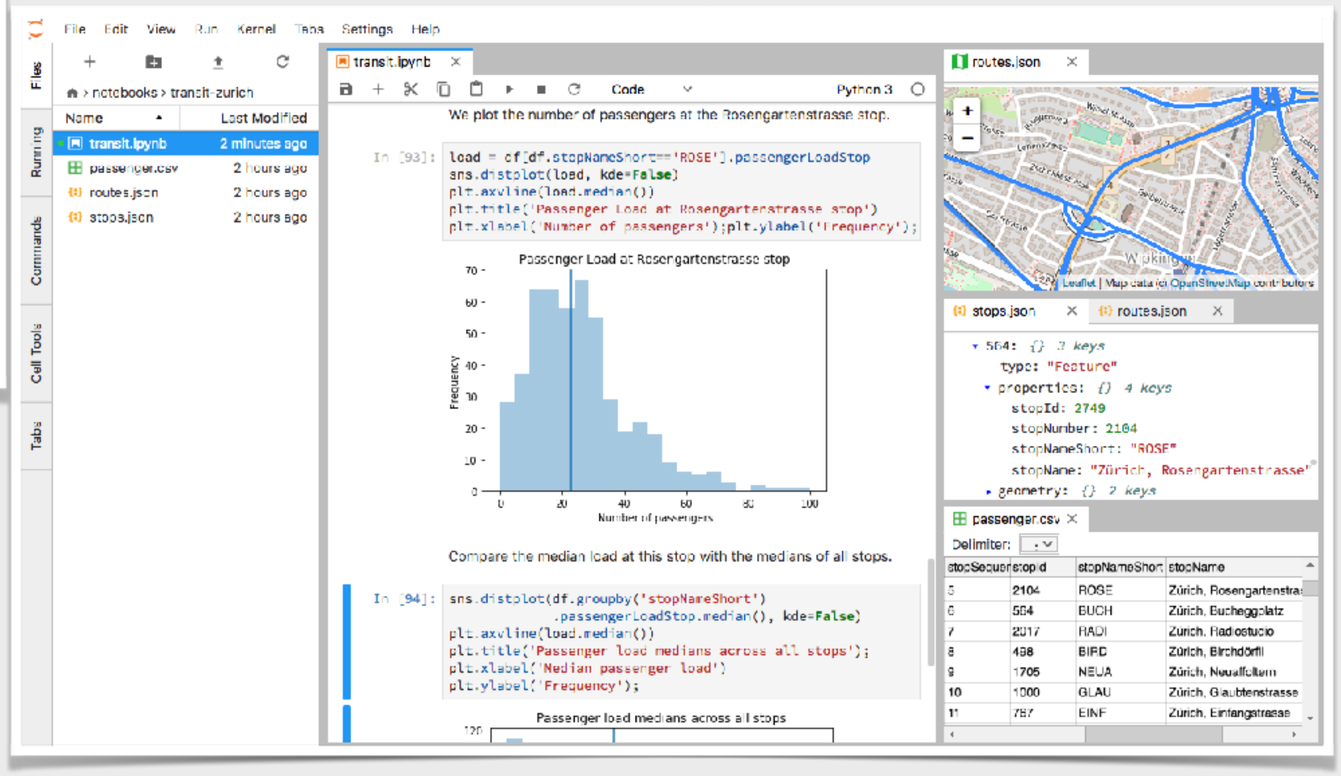
Juno

https://juno.sh



JupyterLab

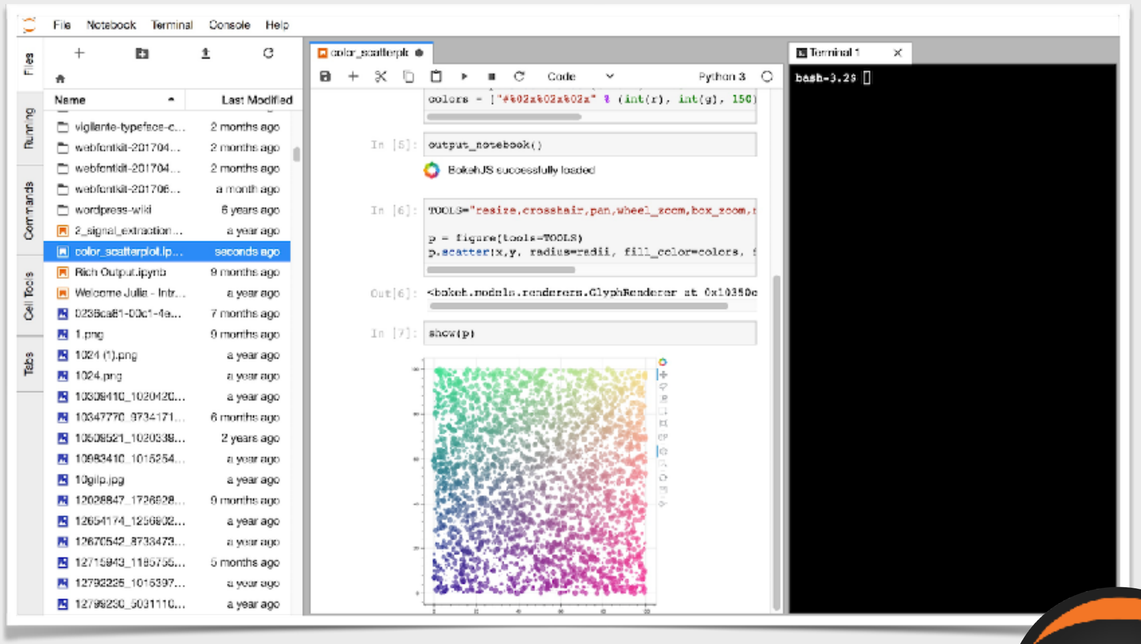




https://blog.jupyter.org/jupyterlab-is-ready-for-users-5a6f039b8906

JupyterLab

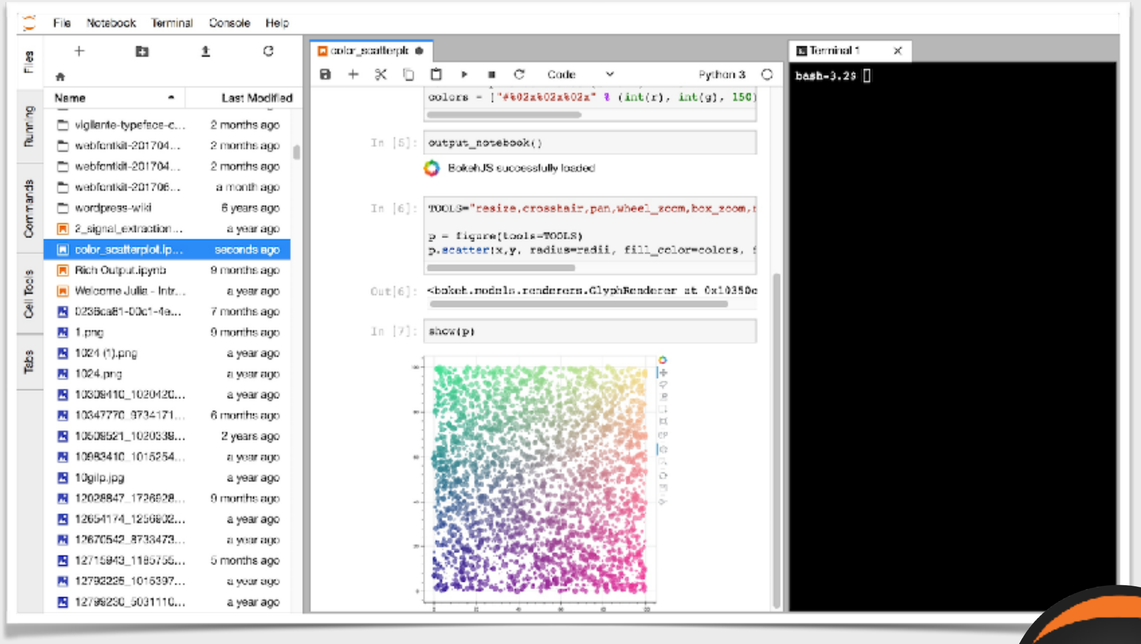
- Install Side by Side with Classic Notebook
- No Change in File Format, or protocol
  - Better Architecture (all extensions are first class)



- Classic Notebook will be deprecated at some point

JupyterLab

- Ready for users
- Ready for Classic Extensions to be ported
- Will have all the new features




jupyterhub

JupyterHub

- Key Infrastructure for Multi-tenant system
- Not limited to Notebook

...

- Key Piece in reproducible research

- Integration into existing environment

Things to Come

Real Time Collaboration

The Good:

It works* !

The Bad

Google Drive RT API is deprecated

Services implementing Real-Time

Google Colaboratory

Road to 1.0

- Scaling horizontally and Vertically
  - 100k+ Users
- Sharing/Integration with RT collaboration
- Binder and Federation
- Auditability (Hippa, GDPR...)

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August 21–24, 2018

New York, NY

jupytercon.com

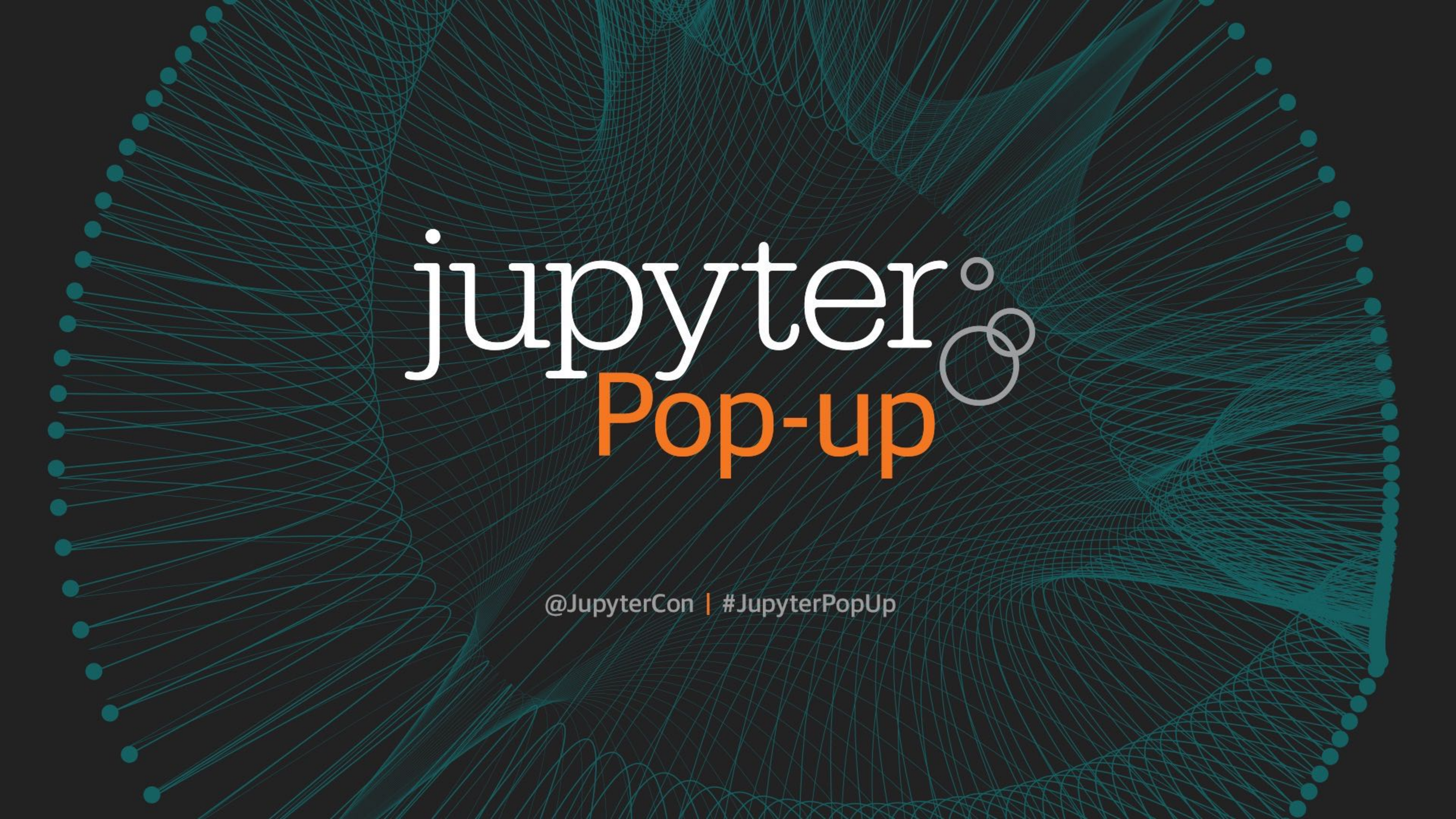
You

Give Feedback

Participate

Showcase

Thanks !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