JupyterLab: Building Blocks for Interactive Computing

SciPy 2016

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20 Minutes Ago

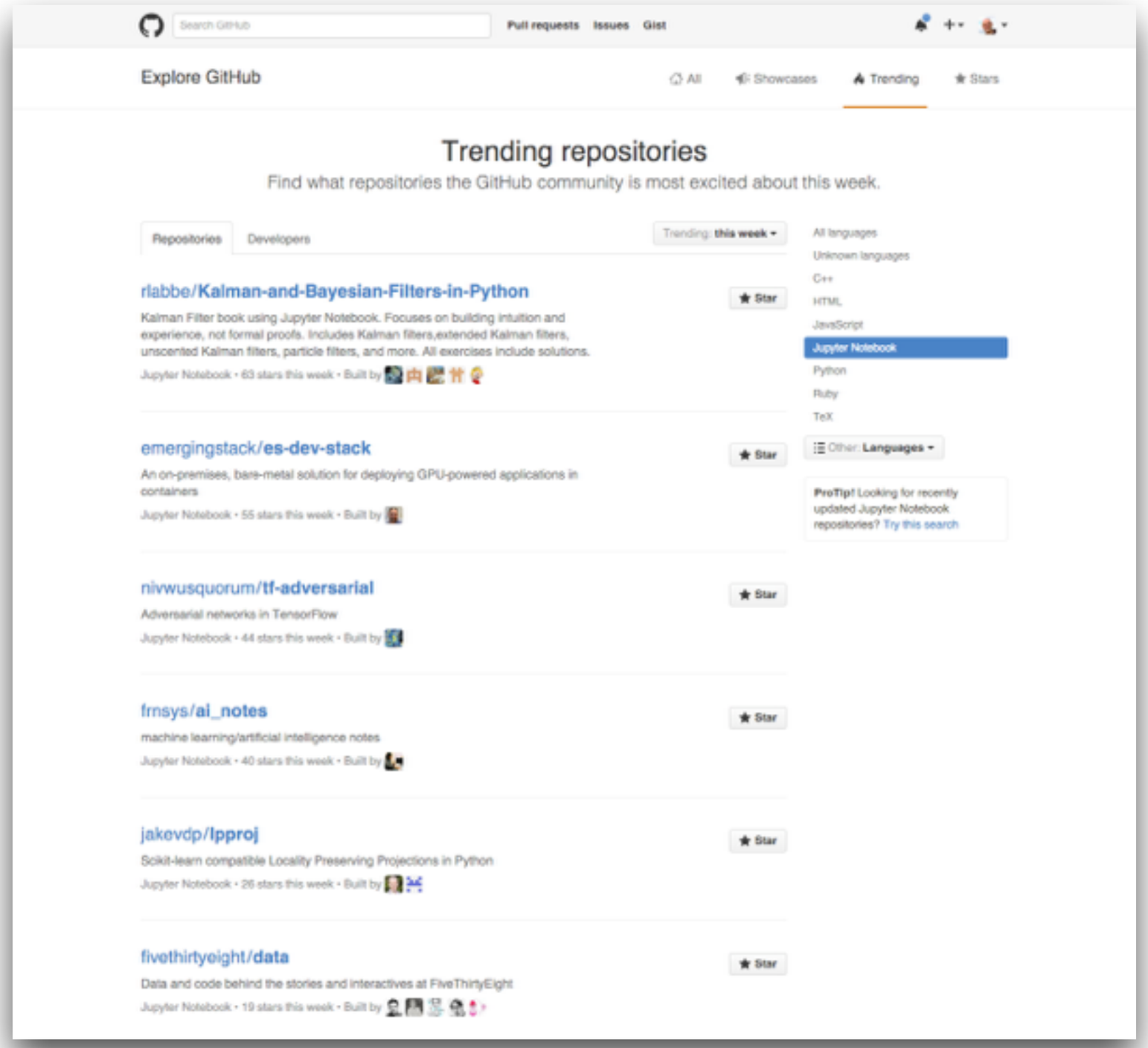
5 Minutes Ago (rebase)

Where Are We Today?

~3M Jupyter Users

https://github.com/jupyter/design/blob/master/surveys/2015-notebook-ux/analysis/report_dashboard.ipynb

Over 500k Notebooks on GitHub



https://github.com/trending/jupyter-notebook?since=weekly

Enabling Reproducible Science

https://losc.ligo.org/about/

Enabling Open Data Journalism

This repository Search Pull requests Issues Gist

BuzzFeedNews / 2016-01-port-arthur-arrests

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Branch: master 2016-01-port-arthur-arrests / no

taggartk Initial commit

1 contributor

896 lines (895 sloc) 24.1 KB

Analysis of Jefferson Co

The code below analyzes arrest data from Jeffer

Load the data

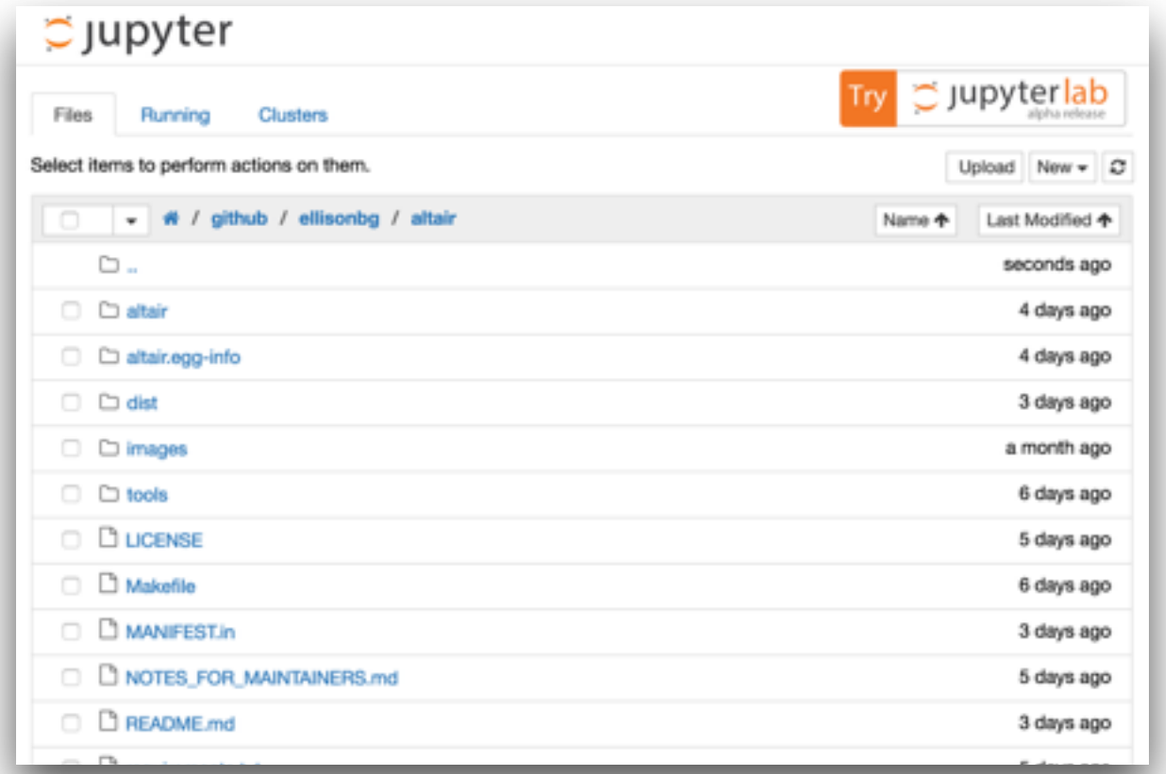
```
In [1]: import pandas as pd

In [2]: date_cols = ["ARREST DT", "RELEASE D

In [3]: all_class_c_arrests = pd.read_csv(".
            parse_dates=date_cols, dtype={"W

In [4]: all_class_c_arrests.head()
```

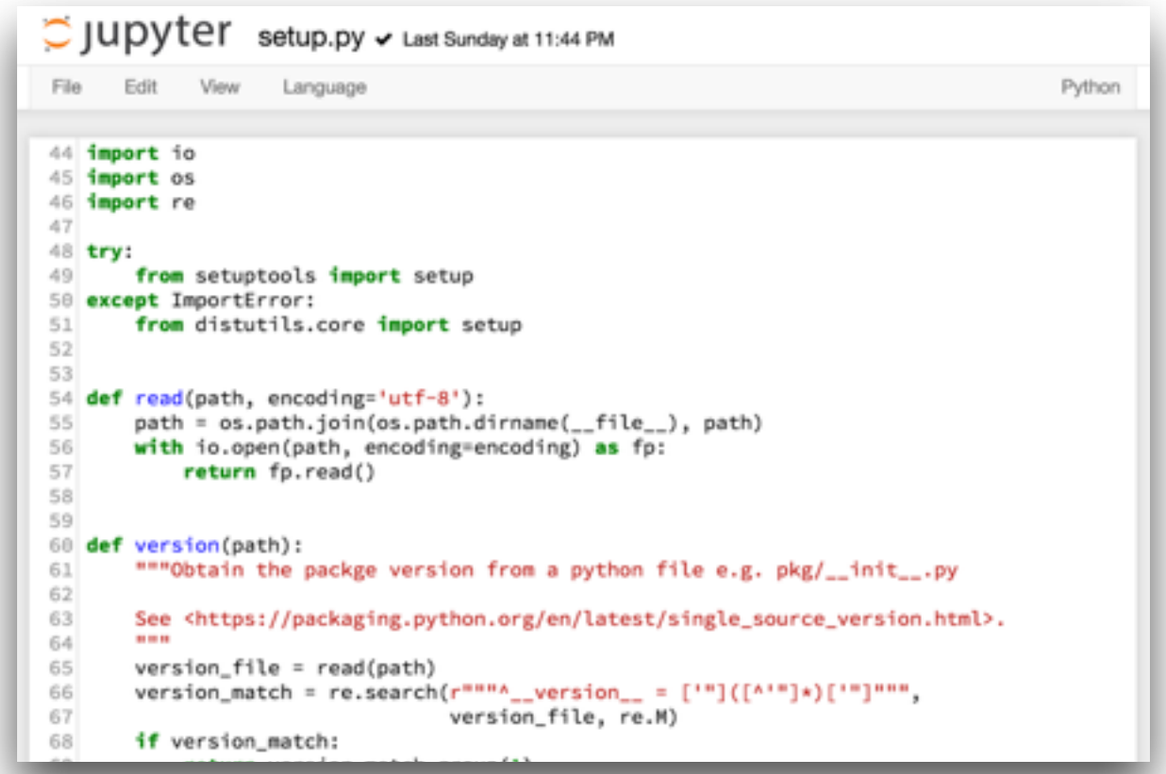
Out[4]:

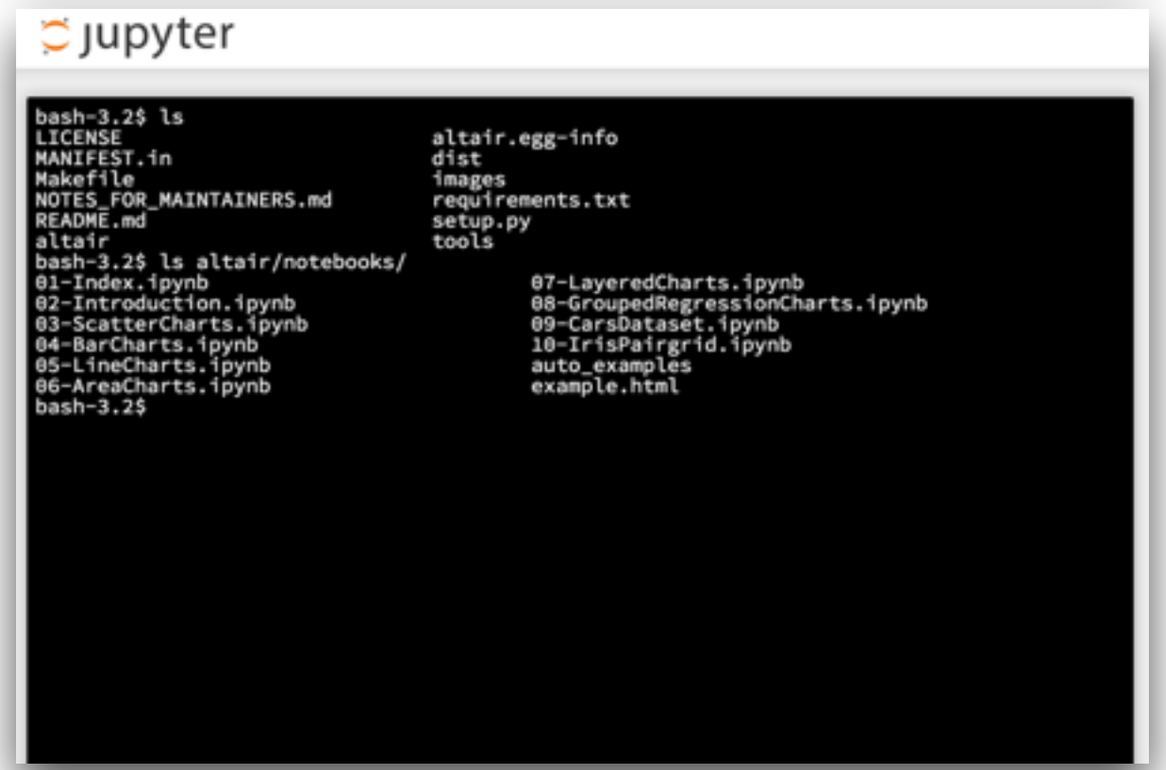
	#	OFFENSE	BOND	WARRANT #	FILED BY
0	1	FAILURE TO APPEAR	0	8080676	PAPD

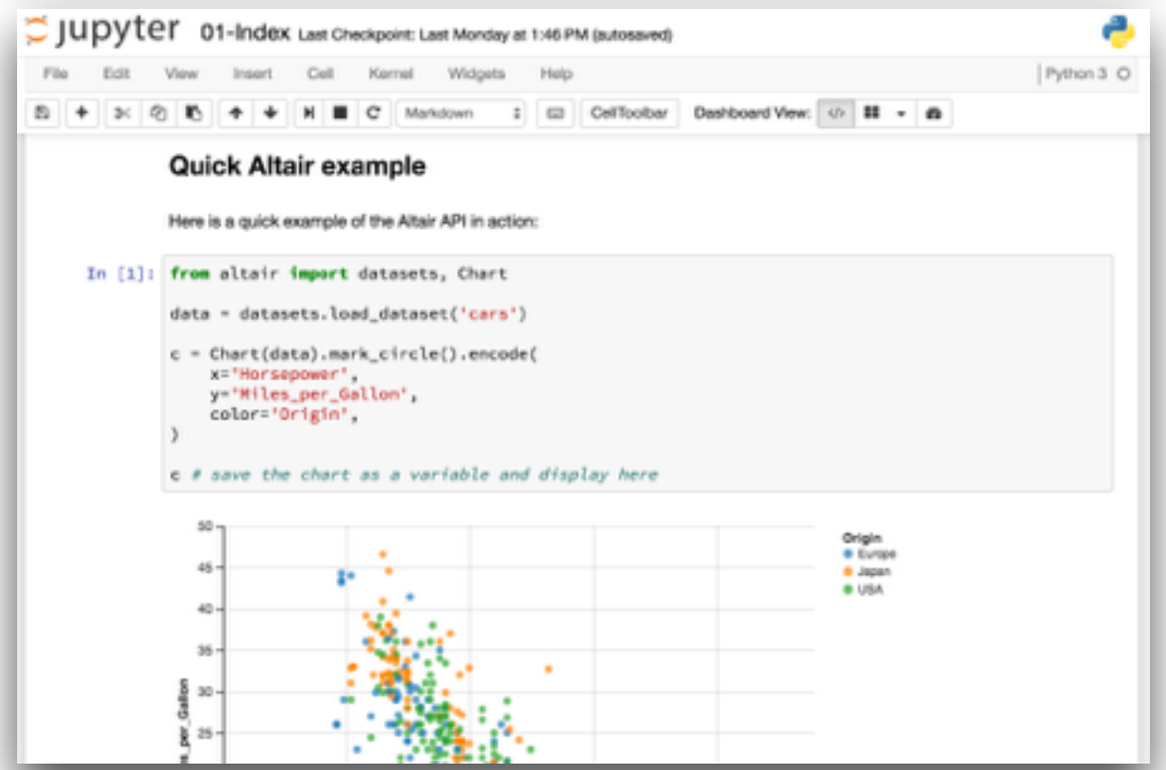
BuzzFeed SHARE

More Than Just Notebooks









Building Blocks

File Browser

Notebooks

Text Editor

Widgets

Output

Terminal

What Are We Hearing From Users?

2015 User Experience Survey

- Mostly daily/weekly users
- Love the notebook workflow and user experience
- Top needs:
  - Integration with version control systems (git/GitHub)
  - Code/text editing
  - Layout/integration of building blocks
  - Debugger, profiler, variable inspector, etc.

https://github.com/jupyter/design/blob/master/surveys/2015-notebook-ux/analysis/report_dashboard.ipynb

Introducing JupyterLab (alpha)

JupyterLab

- JupyterLab is the natural evolution of the Jupyter Notebook user interface
- JupyterLab is an IDE: *Interactive* Development Environment
- Flexible user interface for assembling the fundamental building blocks of interactive computing
- Modernized JavaScript architecture based on npm/webpack, plugin system, model/view separation
- Built using PhosphorJS (http://phosphorjs.github.io/)
- Design-driven development process

https://github.com/jupyter/jupyterlab

Roadmap

- Today (July 2016) JupyterLab is an early preview only
- Not suggested for general usage:
    - Visual design, UI, UX, interactions, code all still changing rapidly!
- Phases:
    - 1) Series of alpha/beta releases of JupyterLab available as an alternative UI alongside the classic notebook
    - 2) JupyterLab 1.0 = Lab notebook component has feature parity with classic notebook
    - 3) JupyterLab becomes the default UI, but classic notebook is still available
    - 4) Classic notebook only available as a separate download

Live Demos

What next?

Alpha (rapid iteration, major changes, may break)

```
pip install jupyterlab
jupyter serverextension enable —sys-prefix
jupyterlab

(or conda install -c condaforge jupyterlab)

jupyter lab
```

Contribute

- User testing downstairs
- Sprints on Saturday/Sunday
- Regular JupyterLab progress meetings on Fridays
- Follow repo on Github

https://github.com/jupyter/jupyterlab

Thanks!

- Bloomberg, Continuum, Jupyter team, especially Chris Colbert, Steve Silvester, Afshin Darian, Dave Willmer
- Moore, Sloan, and Helmsley Foundations

Thank You!