TWO SIGMA

www.twosigma.com

Why Two Sigma Contributes to Open Source

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Two Sigma Investments

October 11, 2018

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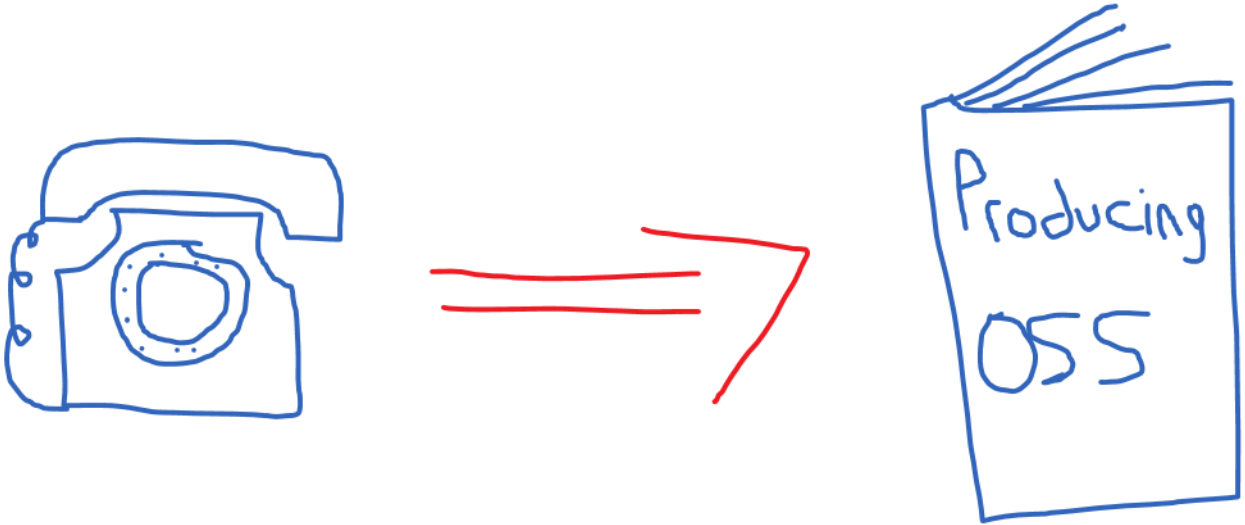
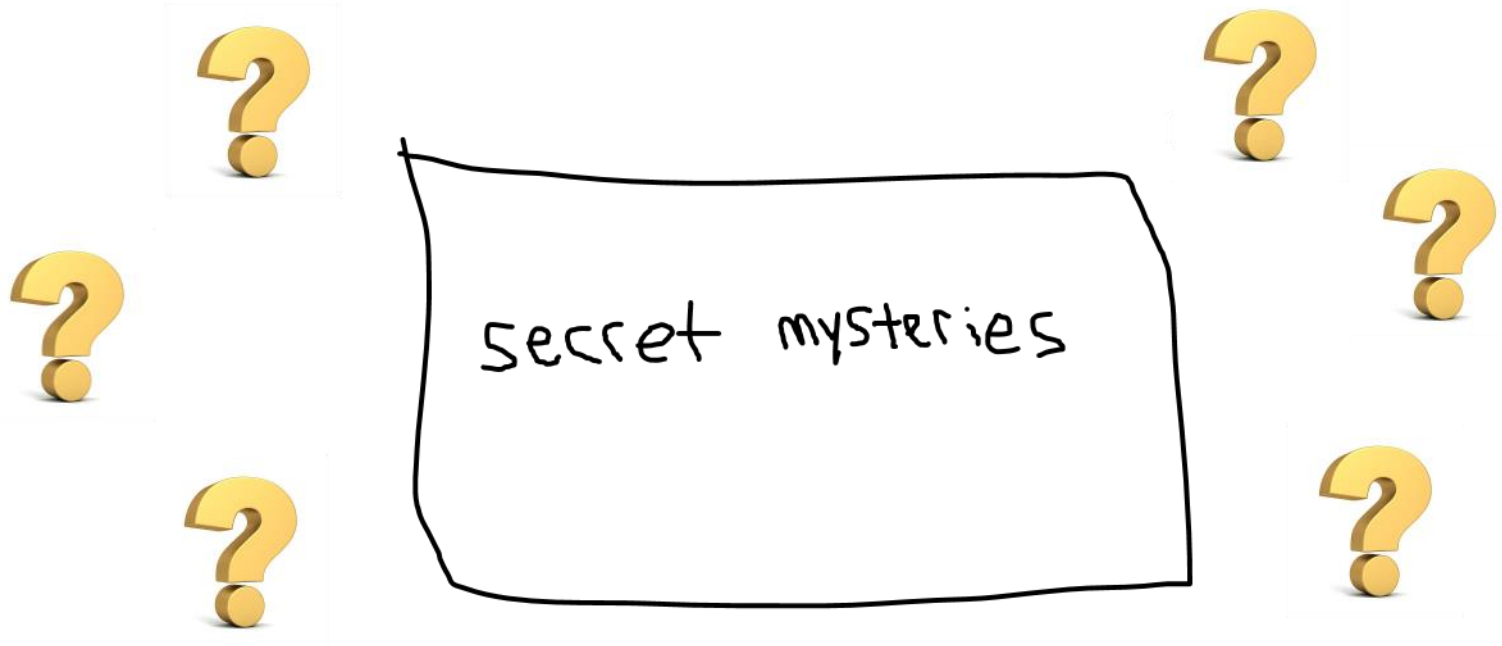
About Me

Oh, hello!

How I got here



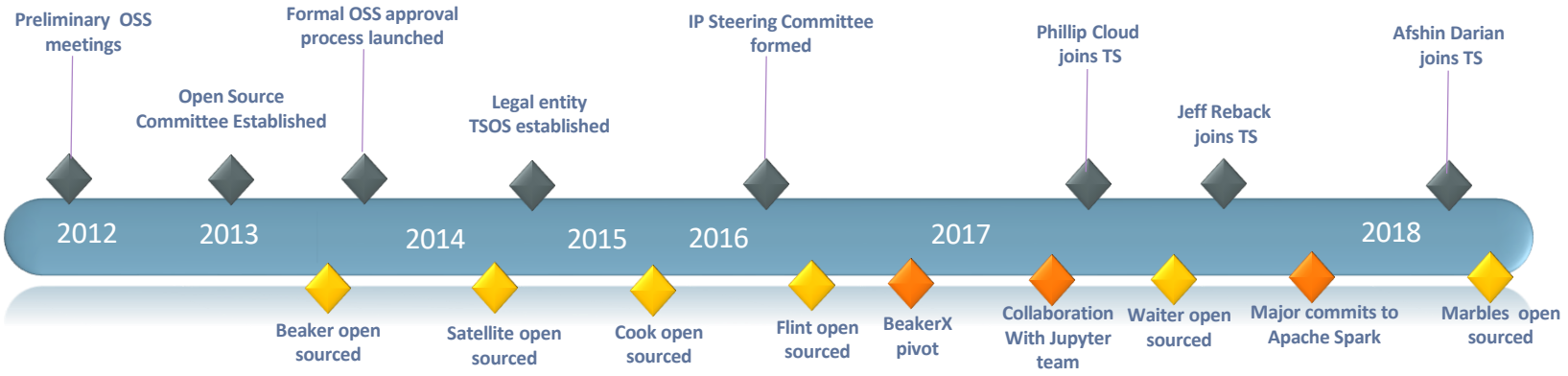
Can we really do that?



What do the next 20 minutes hold?

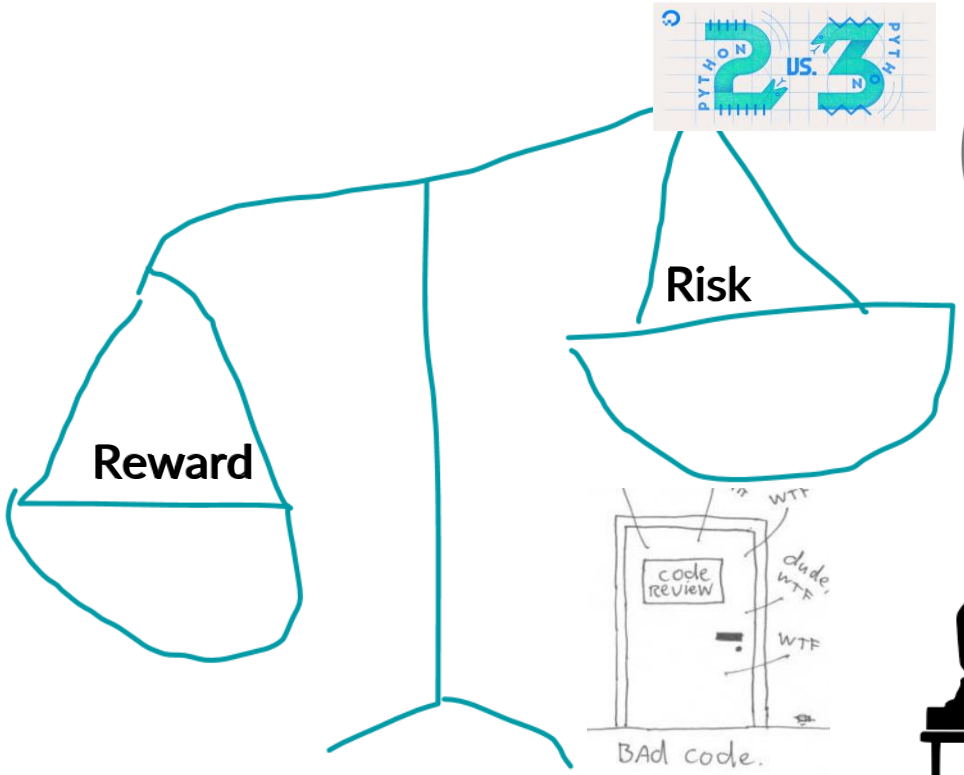
- Why is OSS scary?
- Why is OSS worth it?
- Lessons learned
- How Two Sigma is trying to help

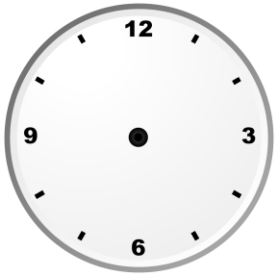
Two Sigma and Open Source: A Brief History



Why Contribute?

Why Contribute?

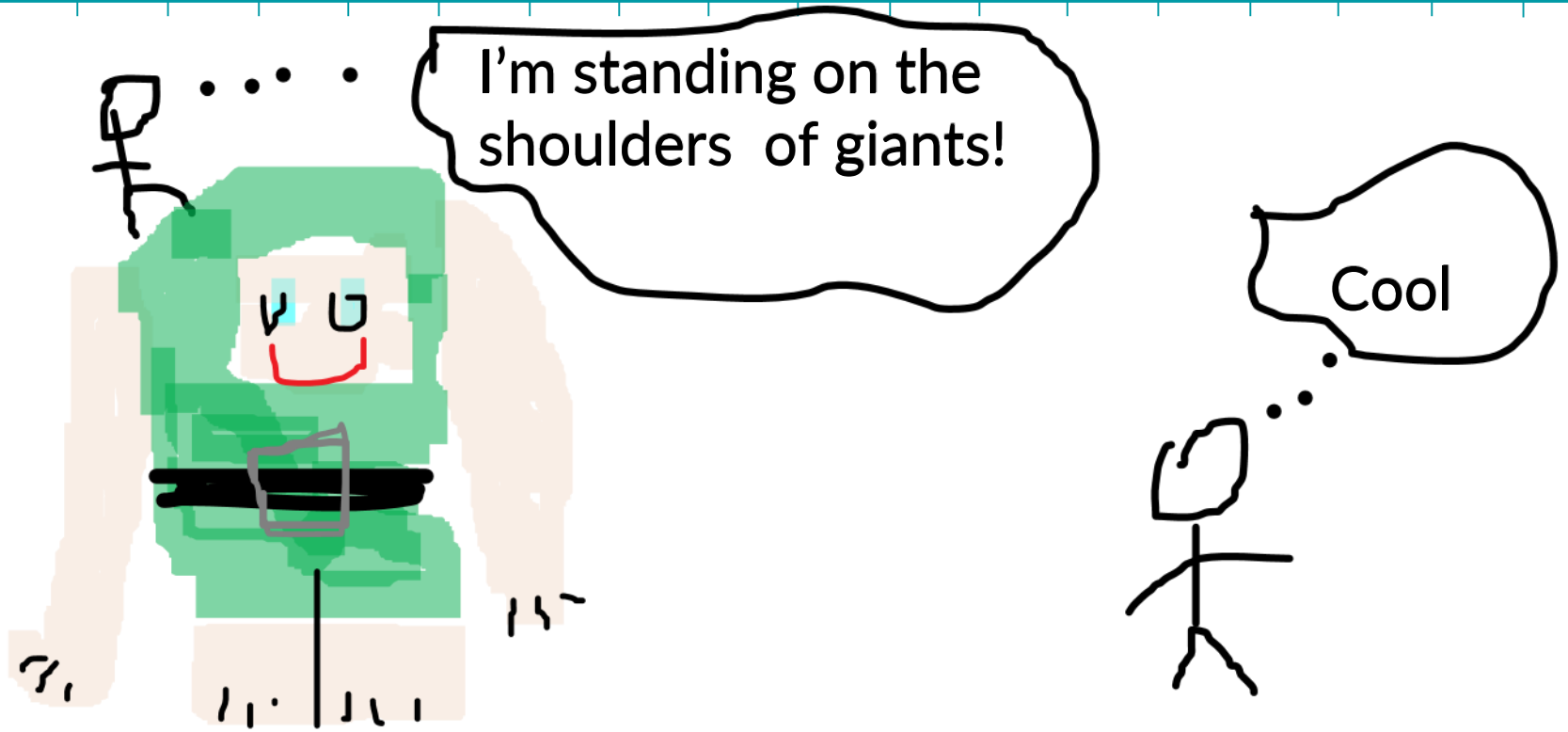




Why Contribute?

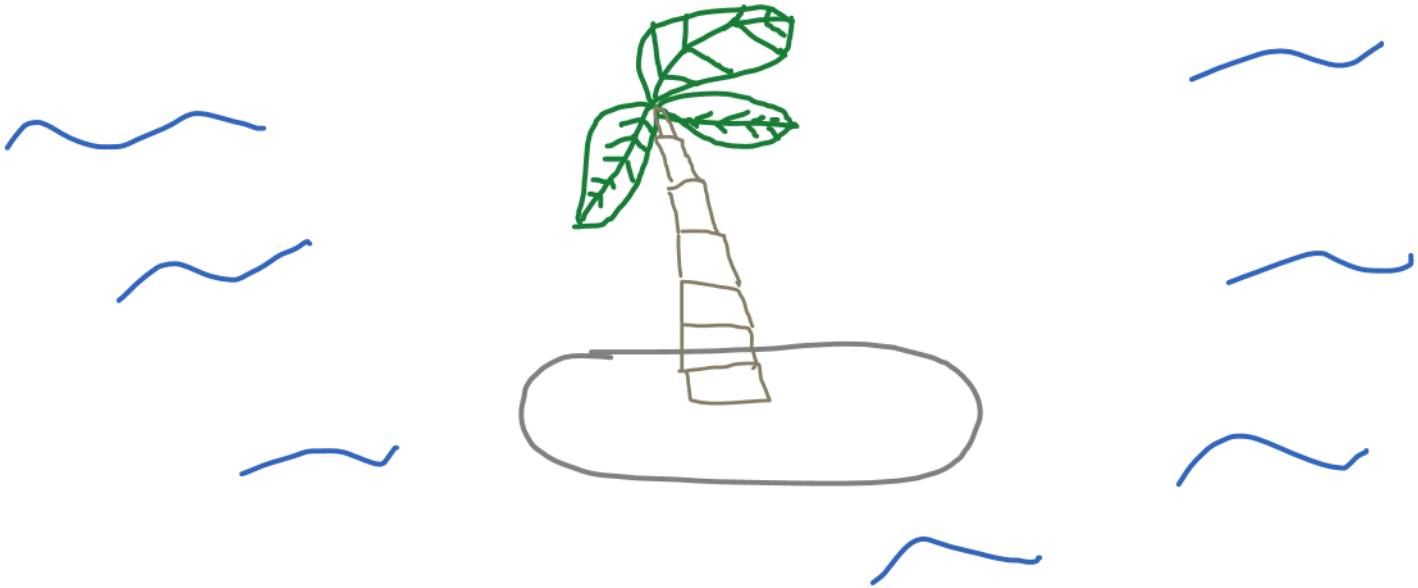
#1: Leveraging other people's work
#2: Shaping the ecosystem
#3: Avoiding isolation
#4: Being cool
#5: Building your legacy
#6: Making the world a better place

#1 - Leveraging Other People's Work



#2 - Shape the Products/Ecosystem

#3 - Avoid Isolation



#4 - Be Cool

#5 - Build Your Legacy

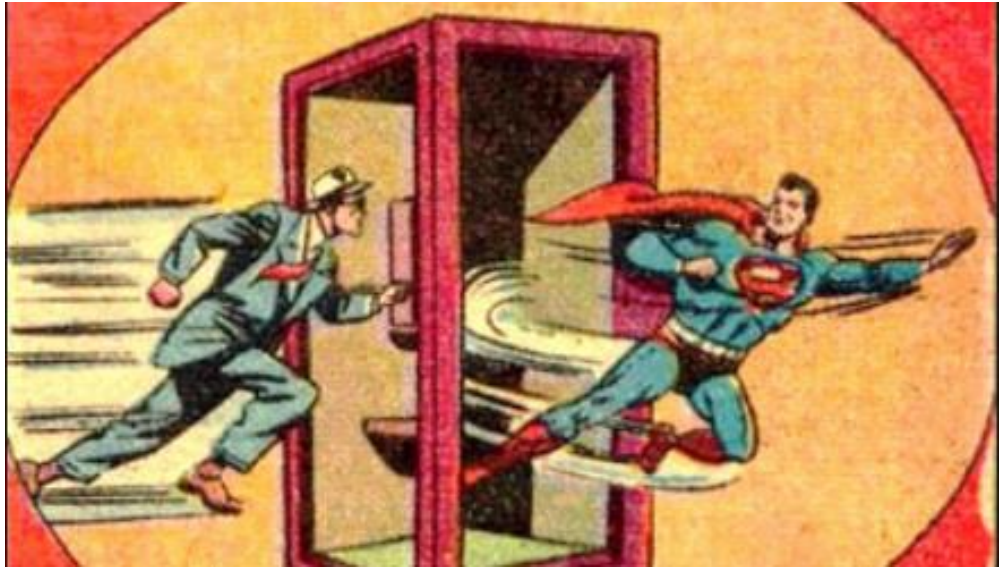
#6 - Make the World Better

Lessons Learned

Lessons Learned: Beaker Notebook

Lessons Learned: Beaker Notebook vs. Project Jupyter

Lessons Learned: Beaker → BeakerX



Lessons Learned: BeakerX

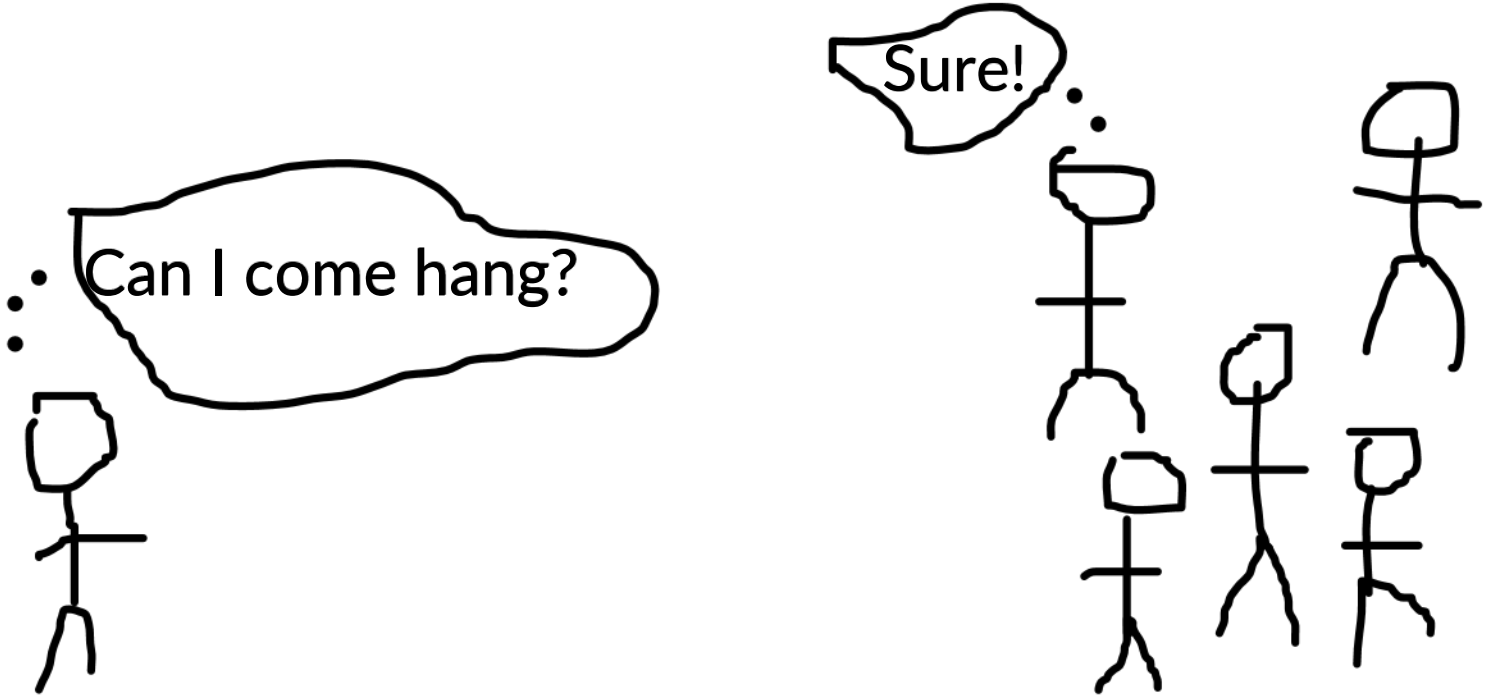
DISCOVERABLE DATA

DATA ANALYSIS & MODELING

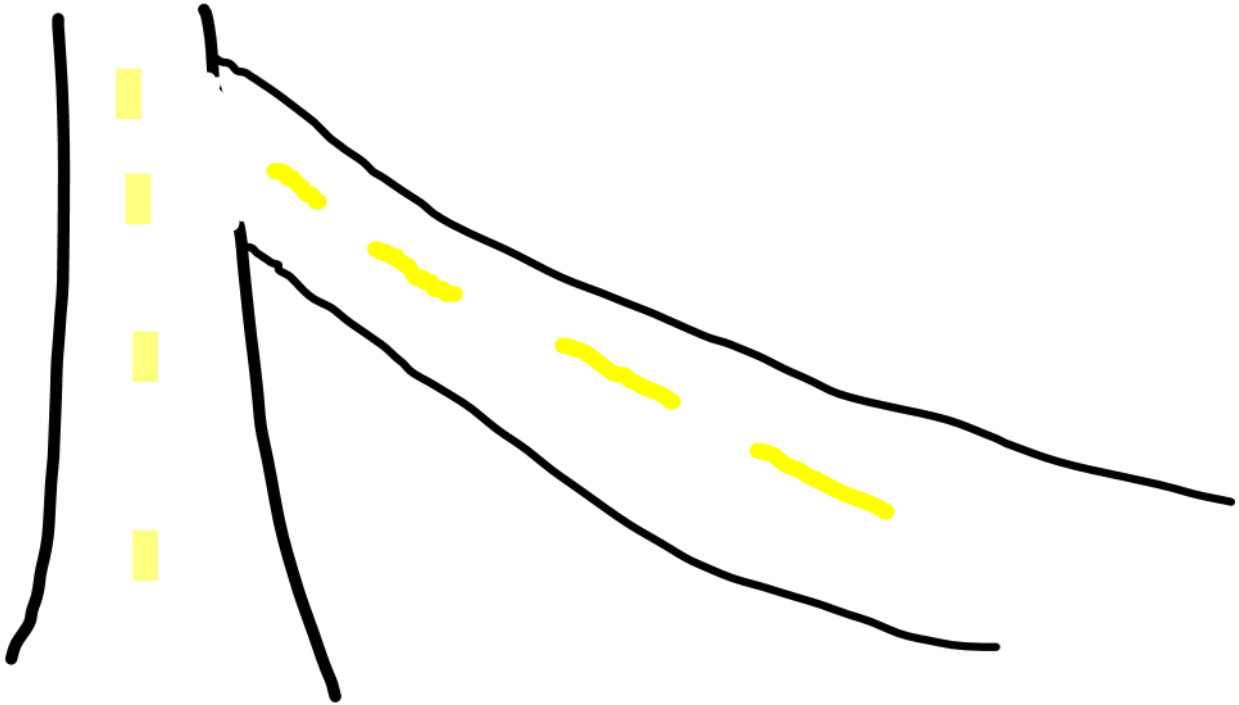
SCALABLE & DISTRIBUTED COMPUTE

PUBLICATION & COLLABORATION

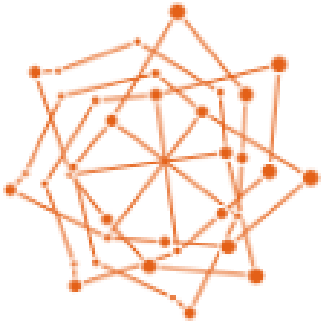
Lessons Learned: Building Community is Hard



Lessons Learned: The Urge to Merge



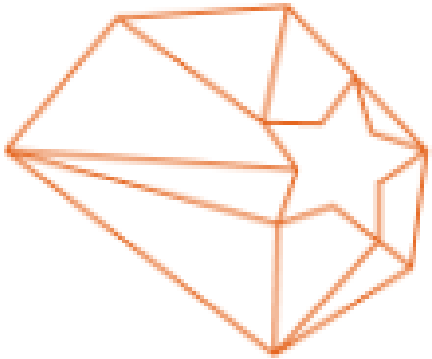
Lessons Learned: Satellite



Satellite

Lessons Learned: Spark

Lessons Learned: Flint



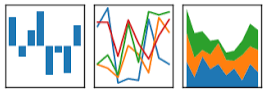
Flint

OSS, I need you!

A Day Without Open Source

pandas

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



NumPy

jupyter

APACHE Spark™

git

We're Not The Only Ones

Public Digital Infrastructure is not Free, Nor Invulnerable

- Widely Used ≠ Widely Supported
- Infrastructure isn't free!
- Need time and money to grow products
- New challenge

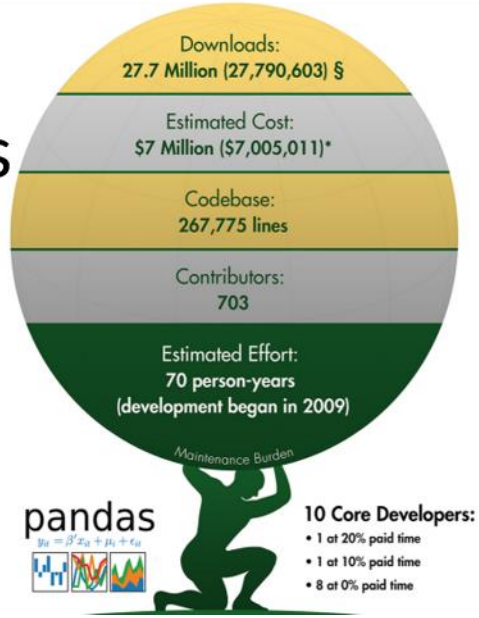
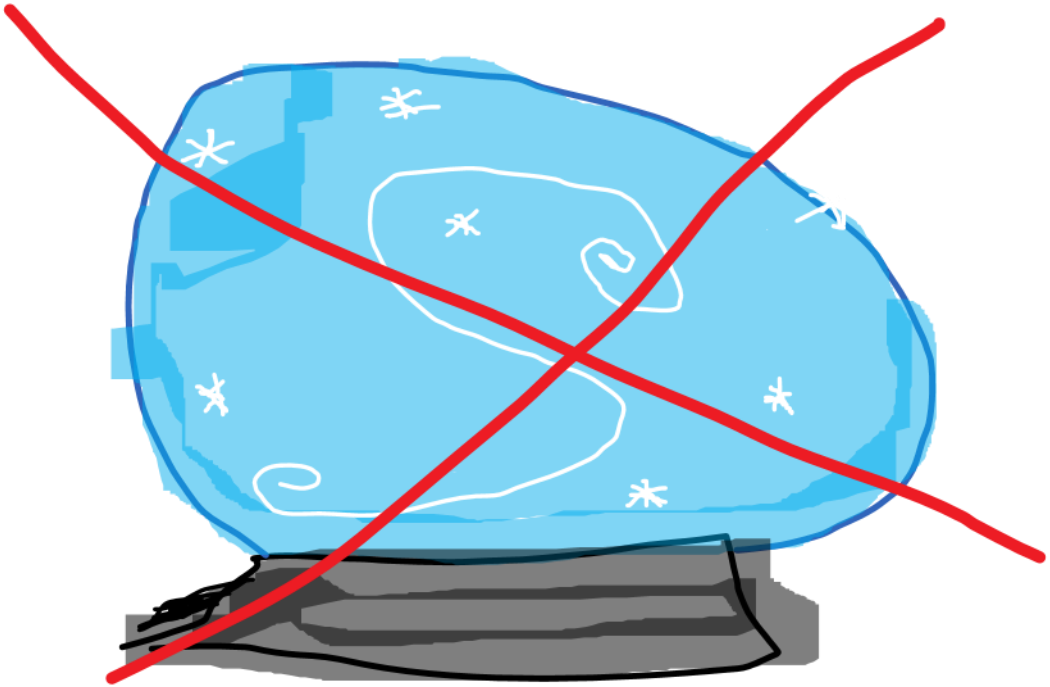


Image courtesy of NUMFOCUS

https://numfocus.org/wp-content/uploads/2018/07/NumFOCUS-Corporate-Sponsorship-Brochure.pdf

Bystander Effect

Forecasting the Future



We Can Affect The Future

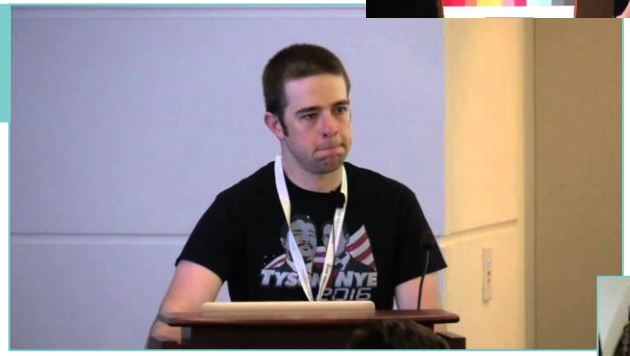
How Two Sigma Got Involved

Ways Two Sigma Is Helping

- **Hiring** OSS Engineers and consultants
- **Open Sourcing** tools we develop in-house
- **Contributing** to OSS projects we rely on
- **Supporting** OSS Startups
- **Building** community

Ways Two Sigma Is Helping

- **Hiring** open source engineers

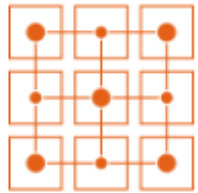


Ways Two Sigma Is Helping

- **Open Sourcing** tools we develop in-house

BeakerX

Cook



Git-meta

Flint

marbles

Waiter

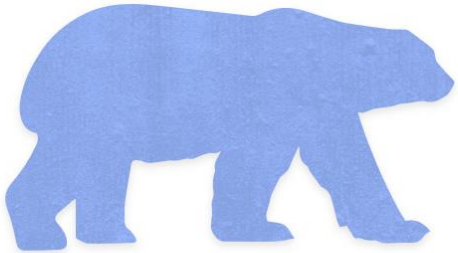
HALITE

Ways Two Sigma Is Helping

- **Contributing** to OSS projects we rely on

Ways Two Sigma Is Helping

- **Supporting** Open Source Startups



URSA LABS

Innovation Lab for Data Science Tools

Ways Two Sigma Is Helping

- **Building** community

Thank You

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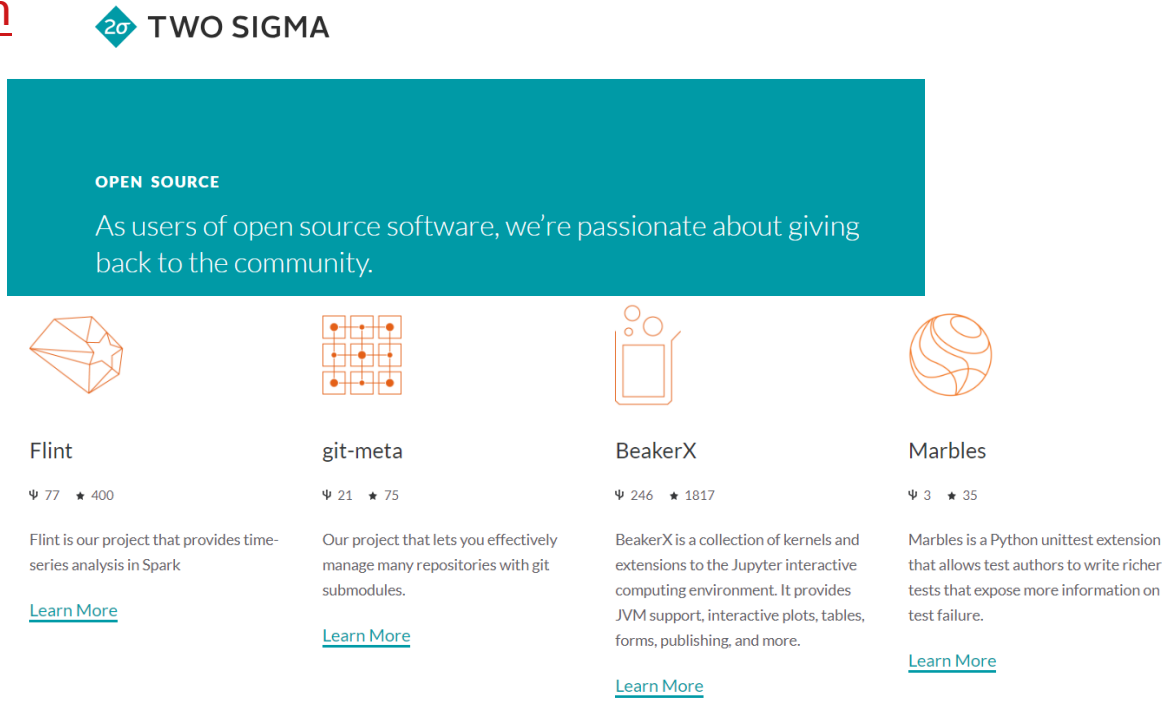
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