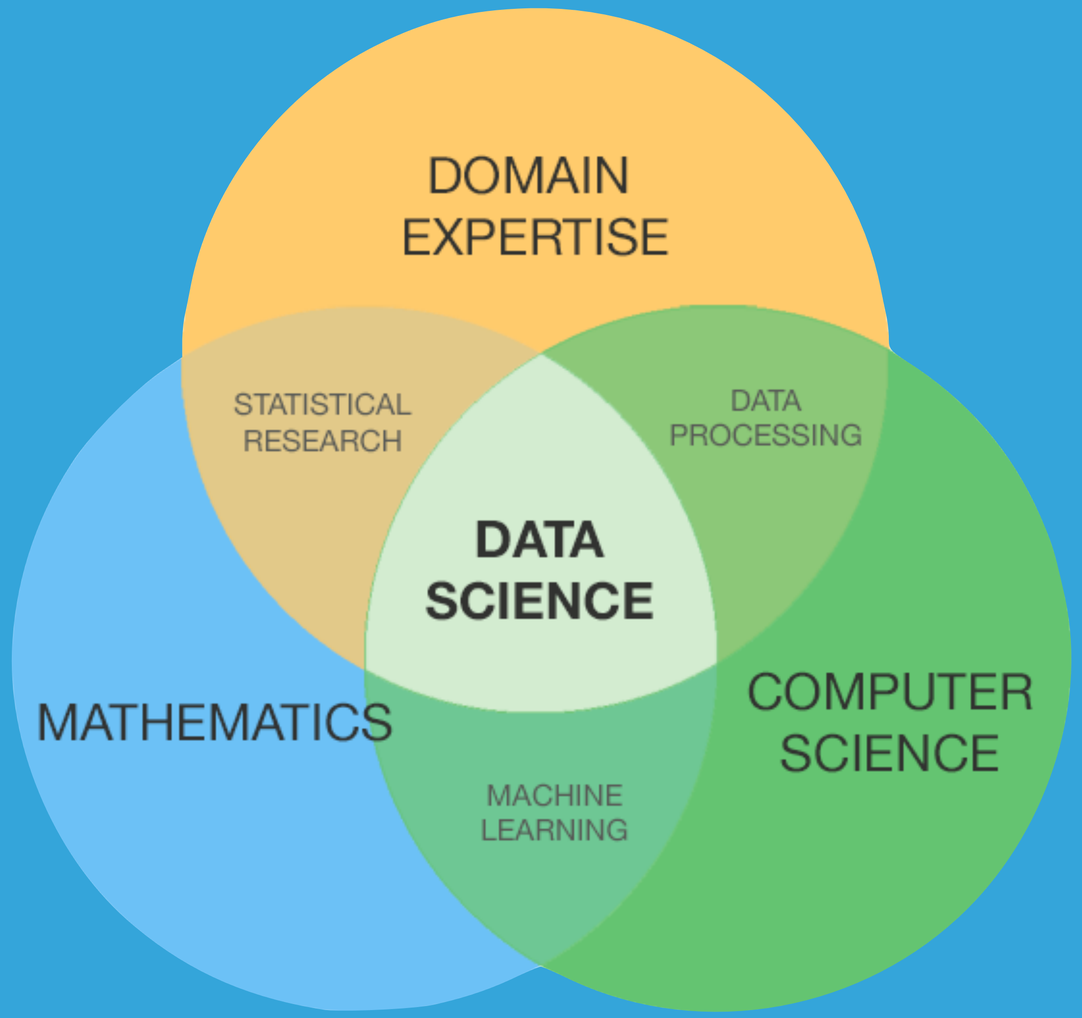
G136 - ENVIRONMENTAL DATA SCIENCE

# WEEK 1

# TODAY'S AGENDA

- Introductions
  - where are you? what are you into? what's keeping you busy these days?
- A quick overview of the class Syllabus & class Slack
- Background Info
- Intro to the Tools we are going to use (Github, JupyterHub)
- Explanation of how we hope the class will work
- Your assignment for the coming week
- Discussion

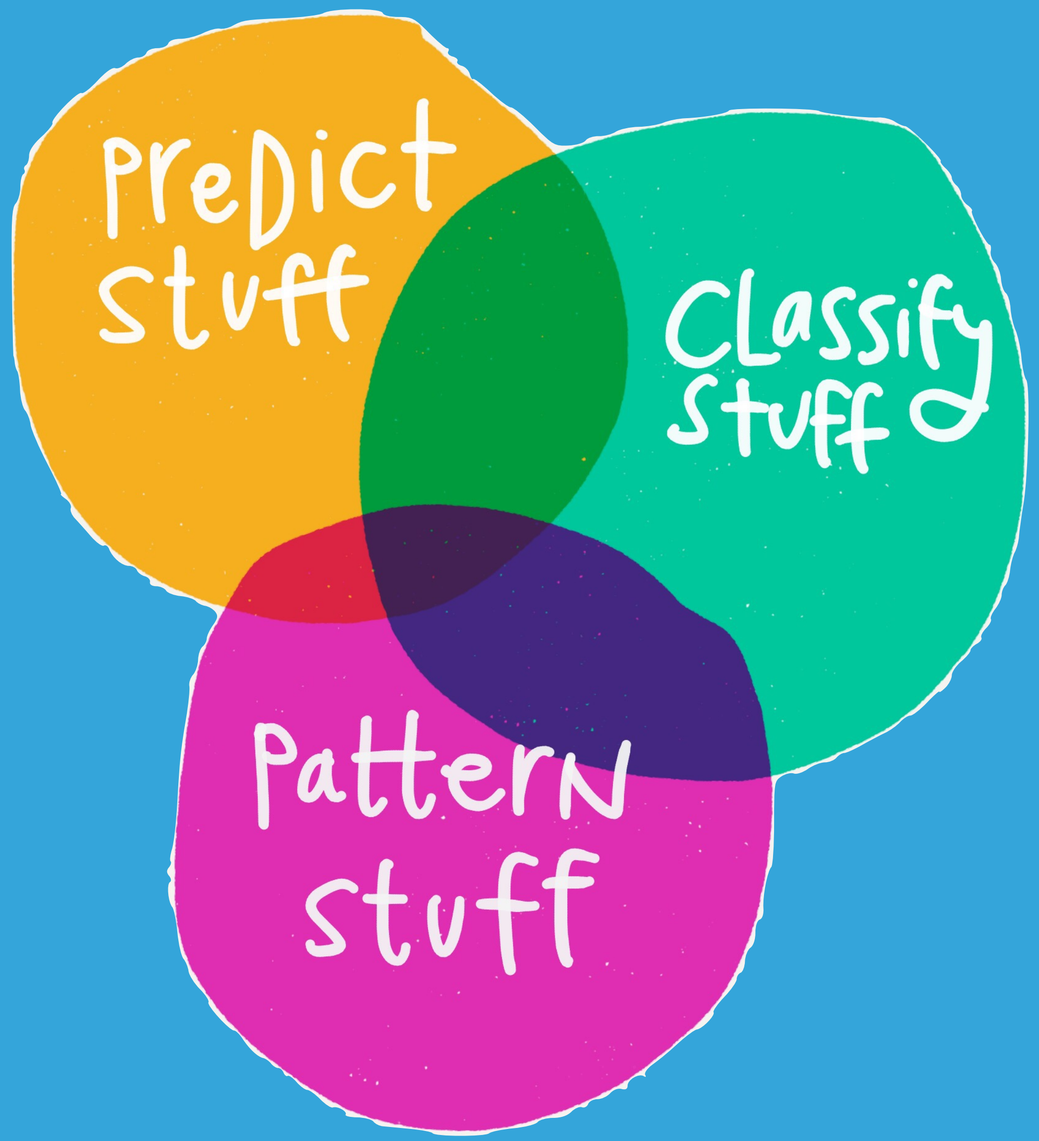
WHAT DATA SCIENCE IS:




"DATA SCIENTIST (N.): PERSON WHO IS BETTER AT STATISTICS THAN ANY SOFTWARE ENGINEER AND BETTER AT SOFTWARE ENGINEERING THAN ANY STATISTICIAN."

Josh Wills, Director of Data Engineering at Slack

WHAT DATA SCIENCE DOES:

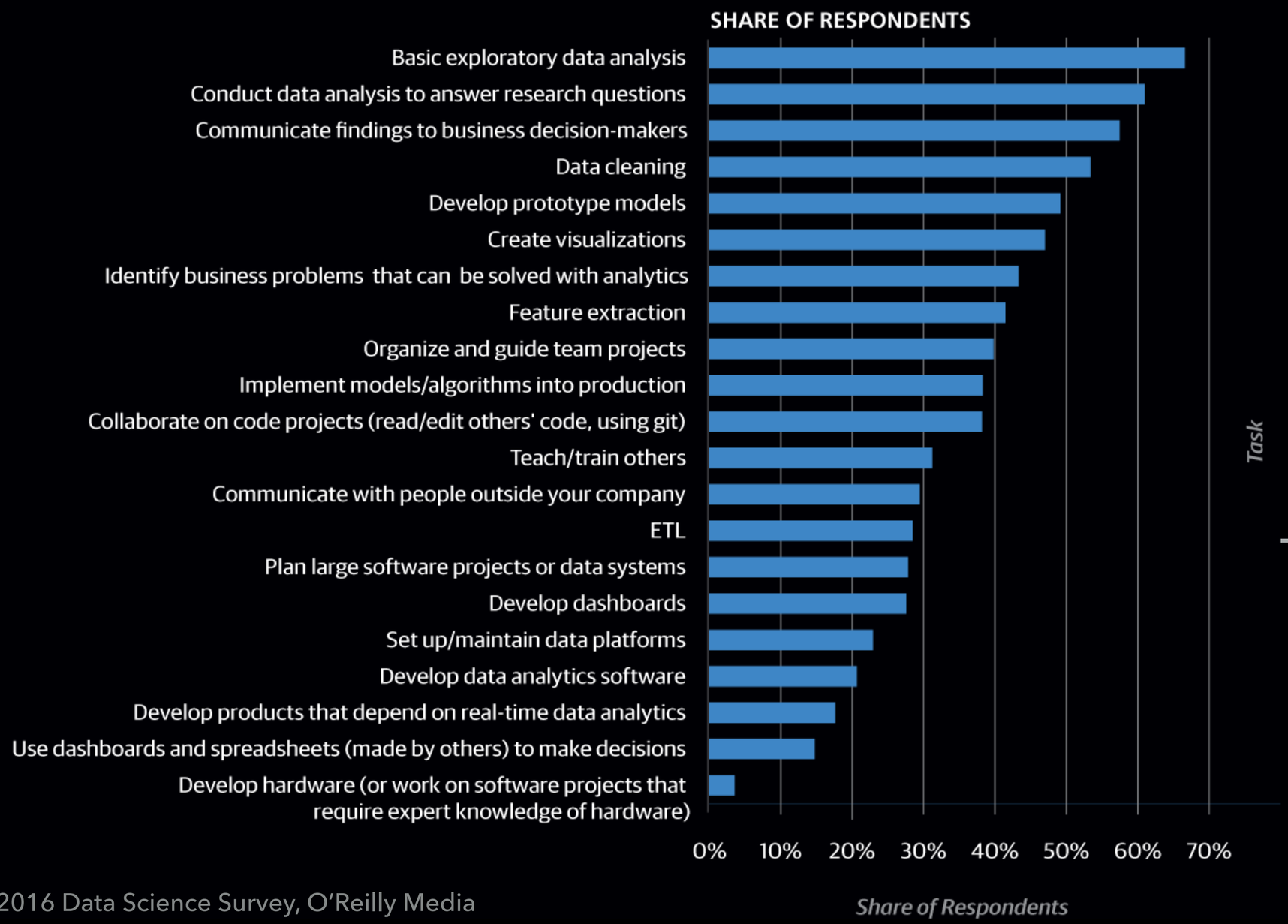



"ENVIRONMENTAL DATA SCIENTIST (N.): PERSON WHO IS BETTER AT COMPUTATIONS THAN ANY APPLIED ENVIRONMENTAL SCIENTIST AND BETTER AT ENVIRONMENTAL PROBLEM SOLVING THAN ANY COMPUTER SCIENTIST."

Me, Your Instructor

**TASKS** (RESPONDENTS COUNTED IF THEY SAID THEY HAVE "MAJOR INVOLVEMENT" IN THIS TASK)

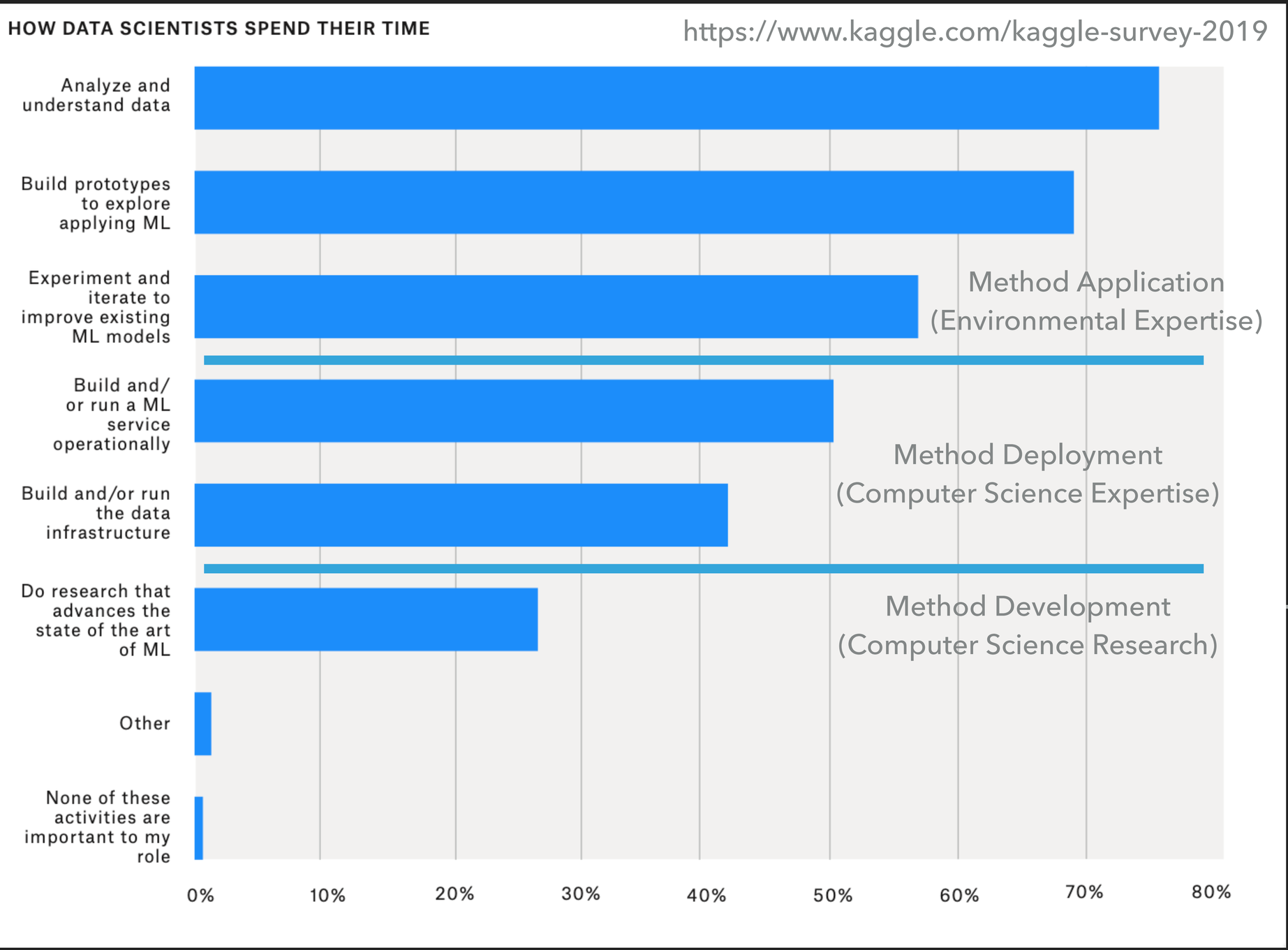
SHARE OF RESPONDENTS




# DATA SCIENCE

# WHAT IS IT?

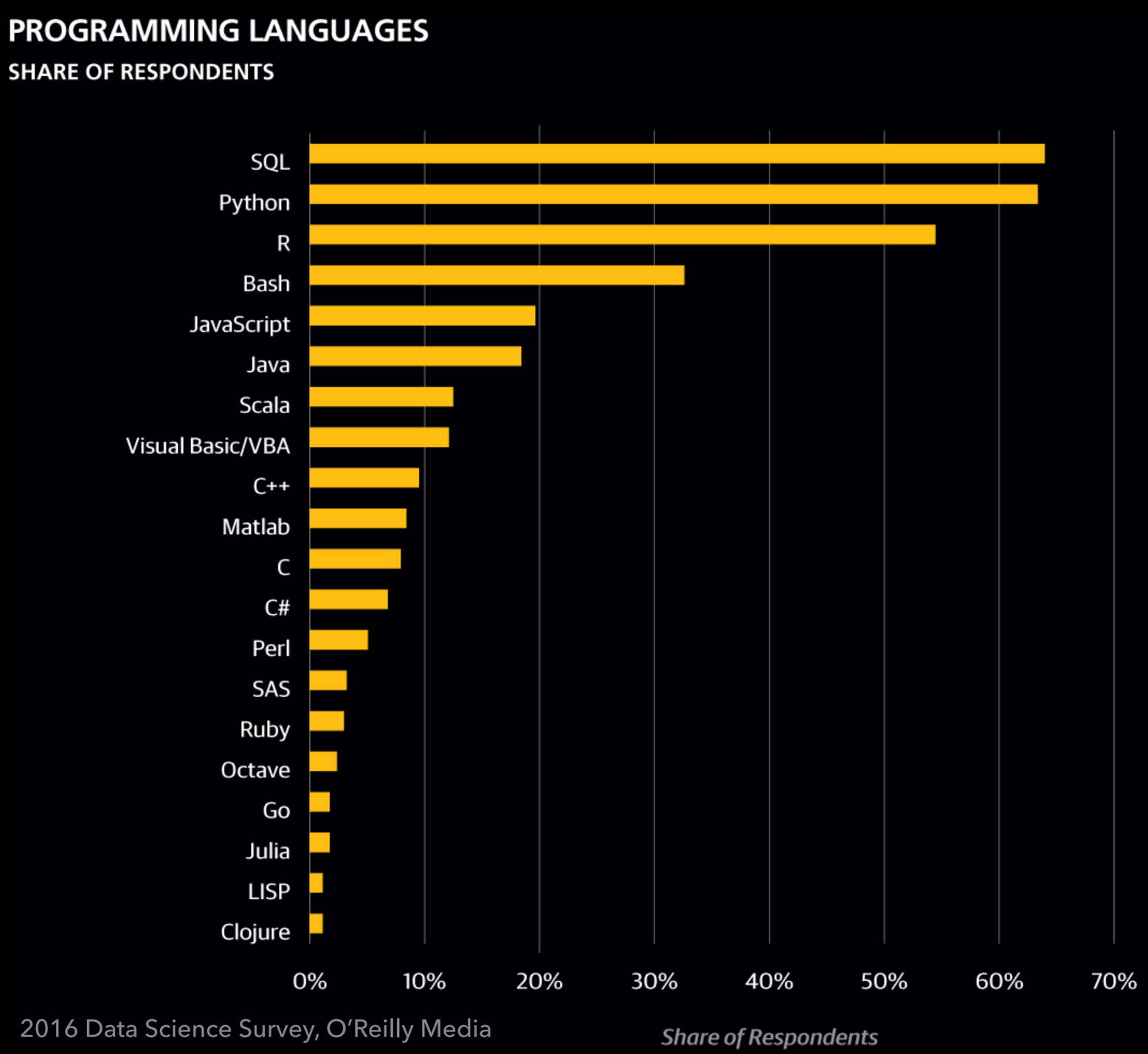
2016 Data Science Survey, O'Reilly Media




The “ground floor” of data science  is domain expertise. Environmental data science requires knowledge of the environment.

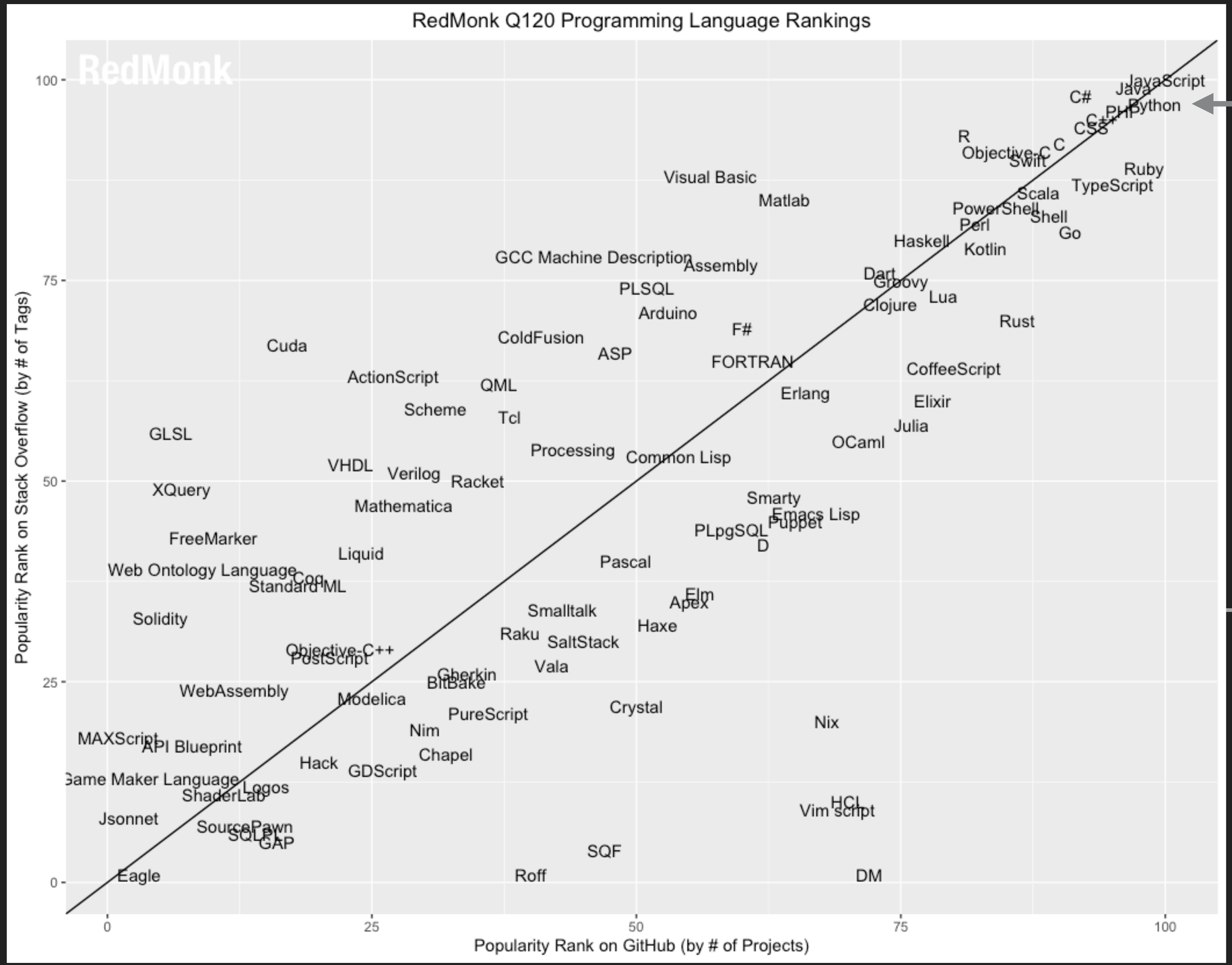
# DATA SCIENCE

# WHAT IS IT?




# WHY PYTHON?

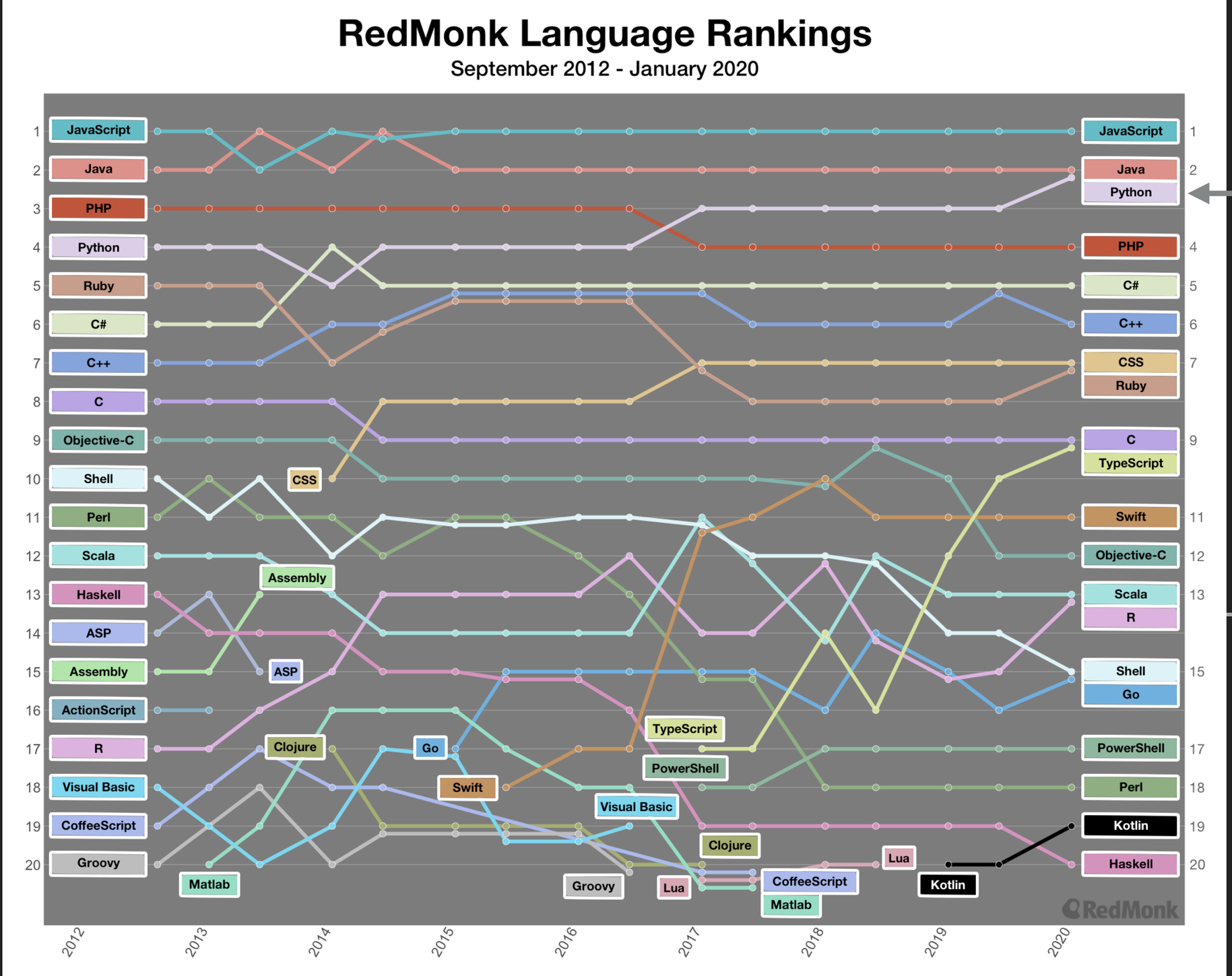
# WHAT TOOLS DO DATA SCIENTISTS USE?




Python

# WHY PYTHON?

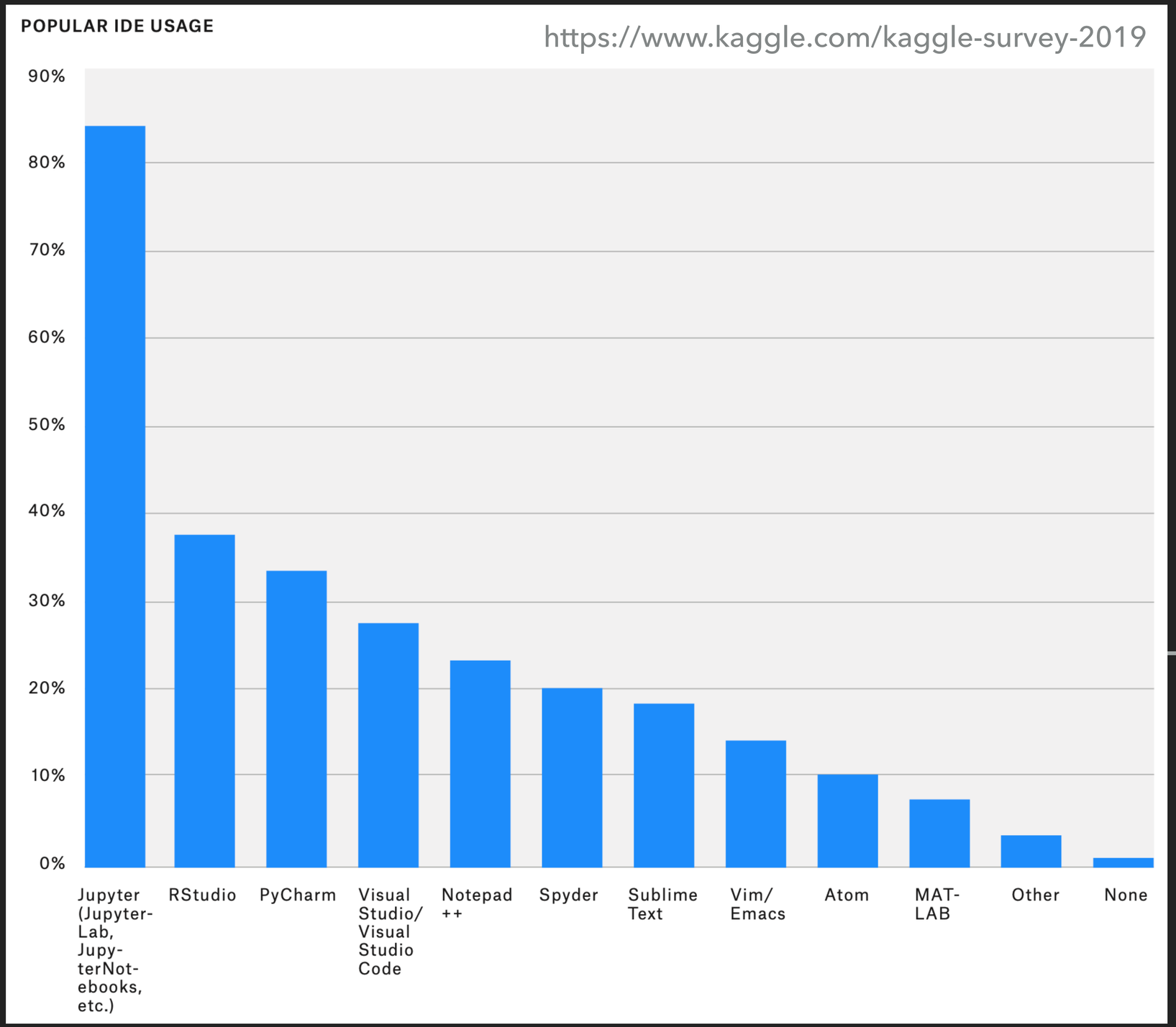
# WHAT LANGUAGES DO PROGRAMMERS USE?




Python (#2, tied w/Java)

# WHY PYTHON?

# WHAT LANGUAGES DO PROGRAMMERS USE?

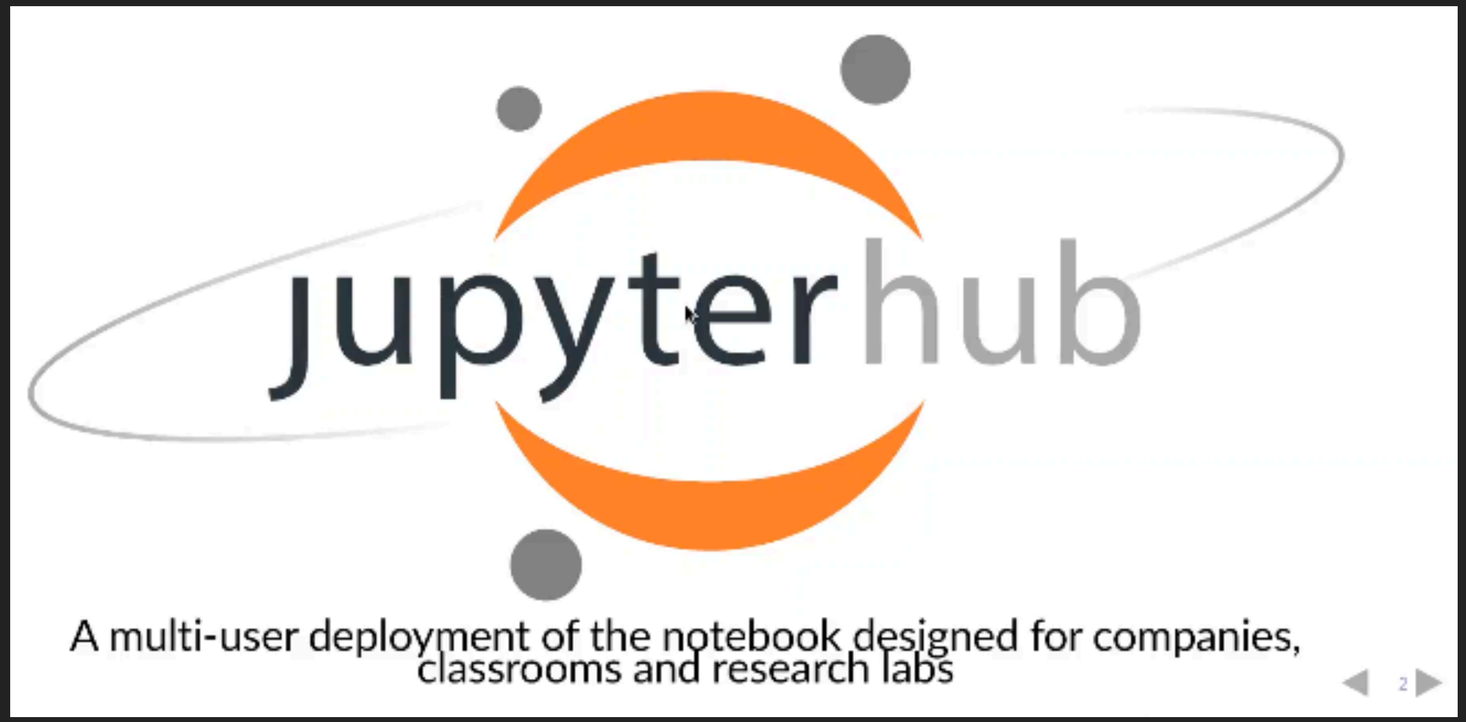



# WHY PYTHON?

# WHAT TOOLS DO DATA SCIENTISTS USE?

# INTRO TO THE TOOLS WE ARE GOING TO USE (GITHUB, JUPYTERHUB)

- https://g136.lsit.ucsb.edu/hub/login
- Getting our class repository:
  - https://github.com/environmental-data-science/envdatasci
- Adding class repository to your Jupyter Instance
  - `git clone`
  - `pip install`




## HOW PYTHON?

# JUPYTERHUB

Course JupyterHub Server: https://g136.lsit.ucsb.edu/

Github Organization: https://github.com/environmental-data-science

Class Repository: https://github.com/environmental-data-science/envdatasci

## COURSE MATERIALS

# GITHUB & GIT

Log into your individual JupyterLab instance

"Pull" Course Materials

Shared Class Repository

GitHub

"Push" Course Your Assignments

Your Personal Course Repository

GitHub

# HOW G136 WILL WORK

# YOUR LAPTOP/PC + GOOGLE CLOUD + GITHUB

Log into your individual JupyterLab instance

jupyterhub

A multi-user deployment of the notebook designed for companies, classrooms and research labs

"Pull" Course Materials

Shared Class Repository

GitHub

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SEND US YOUR GITHUB USERNAME!

# HOW G136 WILL WORK

# YOUR LAPTOP/PC + GOOGLE CLOUD + GITHUB