

FISHER DATA ANALYTICS ORGANIZATION

UNDERSTANDING PYTHON

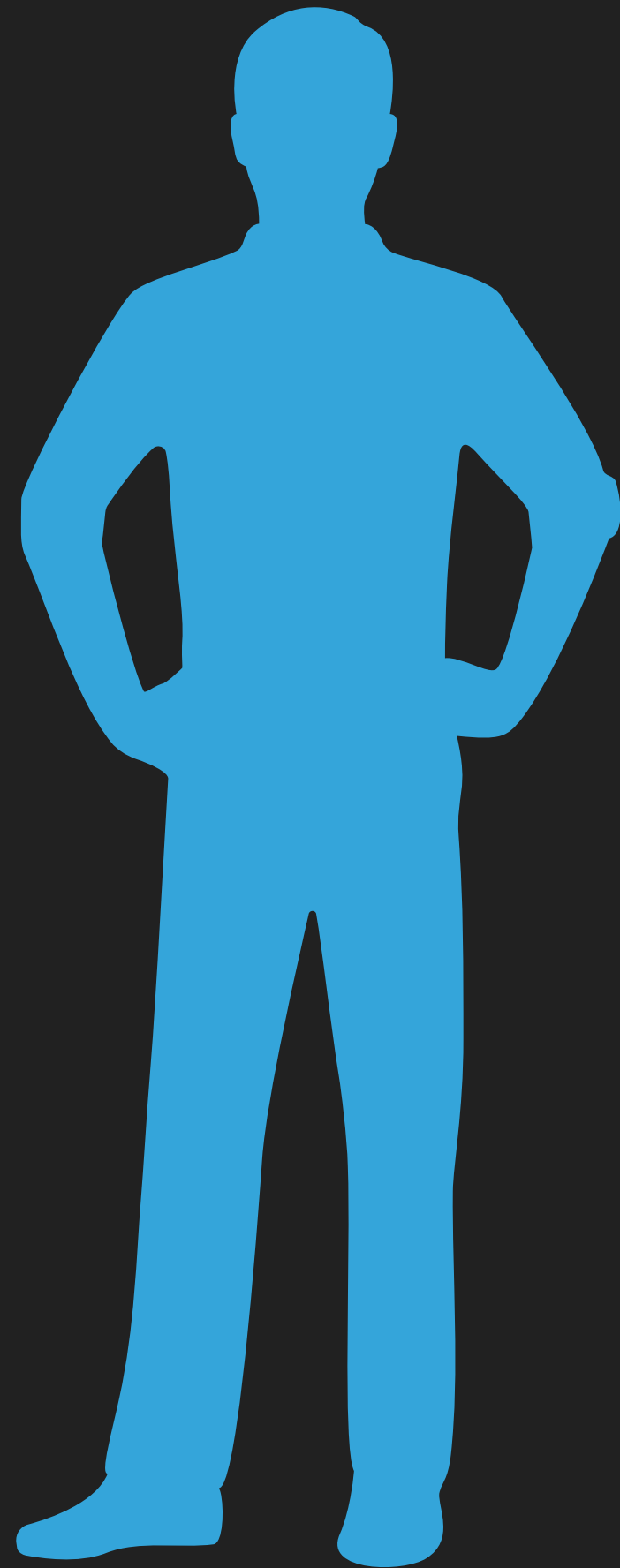
MARCH 23, 2022

WHO ARE YOU?

FISHER DATA ANALYTICS ORGANIZATION

- ▶ Founded in February 2022.
- ▶ Provide Fisher graduate students with analytics-focused resources and opportunities.
 - ▶ Resources for learning analytics tools and skills to apply in industry.
 - ▶ Opportunities to network with employers, alumni, faculty, and other students.
- ▶ Leadership: Aaron Tharsius (President), Ajay Karthik (Vice President), Matt Snyder (Treasurer), Dr. Elliot Bendoly (Advisor)





AARON THARSIUS

- ▶ First year FT MBA student at Fisher College of Business
- ▶ B.S. in Mathematics from the University of Alabama
- ▶ Research experience in applications of graph theory to anthropology, complexity theory, and knot theory
- ▶ Previously worked at OhioHealth as an Informatics Analyst

UNDERSTANDING PYTHON

WHAT IS PYTHON?

WHAT IS A PROGRAMMING LANGUAGE?

**A PROGRAMMING LANGUAGE IS A TYPE
OF WRITTEN LANGUAGE THAT TELLS
COMPUTERS WHAT TO DO.**

DATA SCIENCE CONSISTS OF SOLVING
BUSINESS PROBLEMS BY STRUCTURING
THEM AS DATA PROBLEMS.

RECAP - WHAT IS PYTHON?

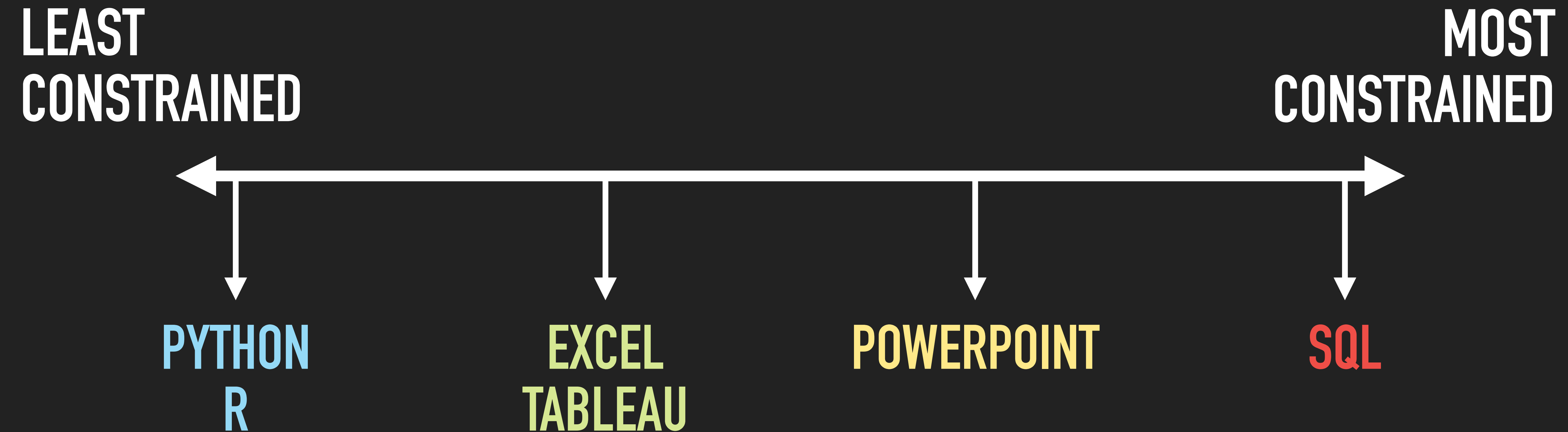
**PYTHON IS A TOOL THAT
LETS YOU SOLVE
BUSINESS PROBLEMS BY
TELLING COMPUTERS HOW
TO SOLVE RELATED DATA
PROBLEMS.**



UNDERSTANDING PYTHON

WHY DO WE USE PYTHON?

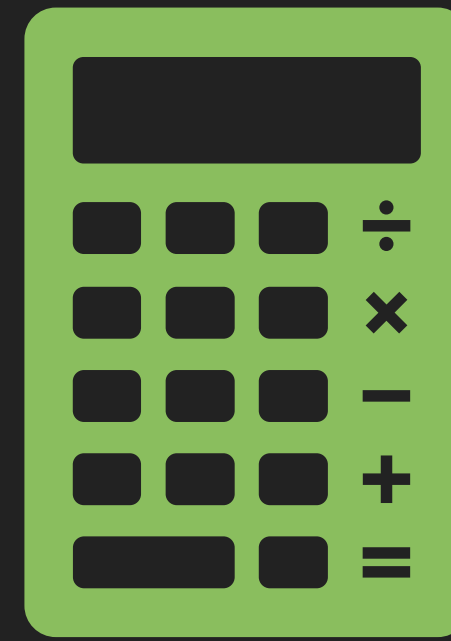
THE DATA SCIENCE TOOL SPECTRUM



AREAS OF PYTHON USAGE



**SOFTWARE
DEVELOPMENT**



**MATHEMATICS AND
COMPUTER SCIENCE**



DATA SCIENCE

AREAS OF PYTHON USAGE

(IN DATA SCIENCE)



**DATA MANIPULATION
(WRANGLING)**



**MODELING AND
PREDICTIONS**

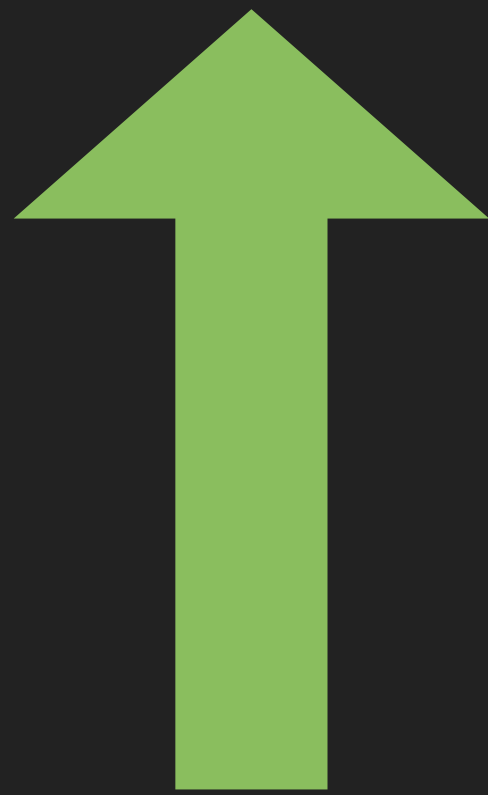


VISUALIZATION



**PRODUCTION AND
DEPLOYMENT**

WHY PYTHON OVER EXCEL?



SCALABILITY



COMPLEXITY



REPETITION

WHY PYTHON OVER R?



**PRODUCTION AND
DEPLOYMENT**



**AI AND MACHINE
LEARNING SYSTEMS**



**INDUSTRY
PREFERENCE**



RECAP - WHY DO WE USE PYTHON?

**PYTHON IS USED TO
MANIPULATE, MODEL, AND
VISUALIZE DATA THAT CAN
BE SCALED AND DEPLOYED
INTO OTHER SYSTEMS.**

UNDERSTANDING PYTHON

HOW DO WE USE PYTHON?

WHAT IS GOOGLE COLAB?

GOOGLE COLAB ALLOWS PEOPLE TO WRITE
AND EXECUTE ARBITRARY PYTHON CODE
THROUGH A BROWSER.

[COLAB.RESEARCH.GOOGLE.COM](https://colab.research.google.com)

PYTHON DEMO



**DOWNLOAD DEMO
FILES**



**GO TO GOOGLE COLAB AND
UPLOAD DEMO FILES**



**WALK THROUGH EXAMPLES
OF USING PYTHON**

DATASET AND NOTEBOOK LOCATION

[GITHUB.COM/ATHARSIUS/PYTHON-SP22](https://github.com/ATHARSIUS/PYTHON-SP22)



RECAP - HOW DO WE USE PYTHON?

**WE CAN USE PYTHON TO
EXPLORE DATA, AUTOMATE
TASKS, AND SOLVE
DIFFICULT PROBLEMS**

UNDERSTANDING PYTHON

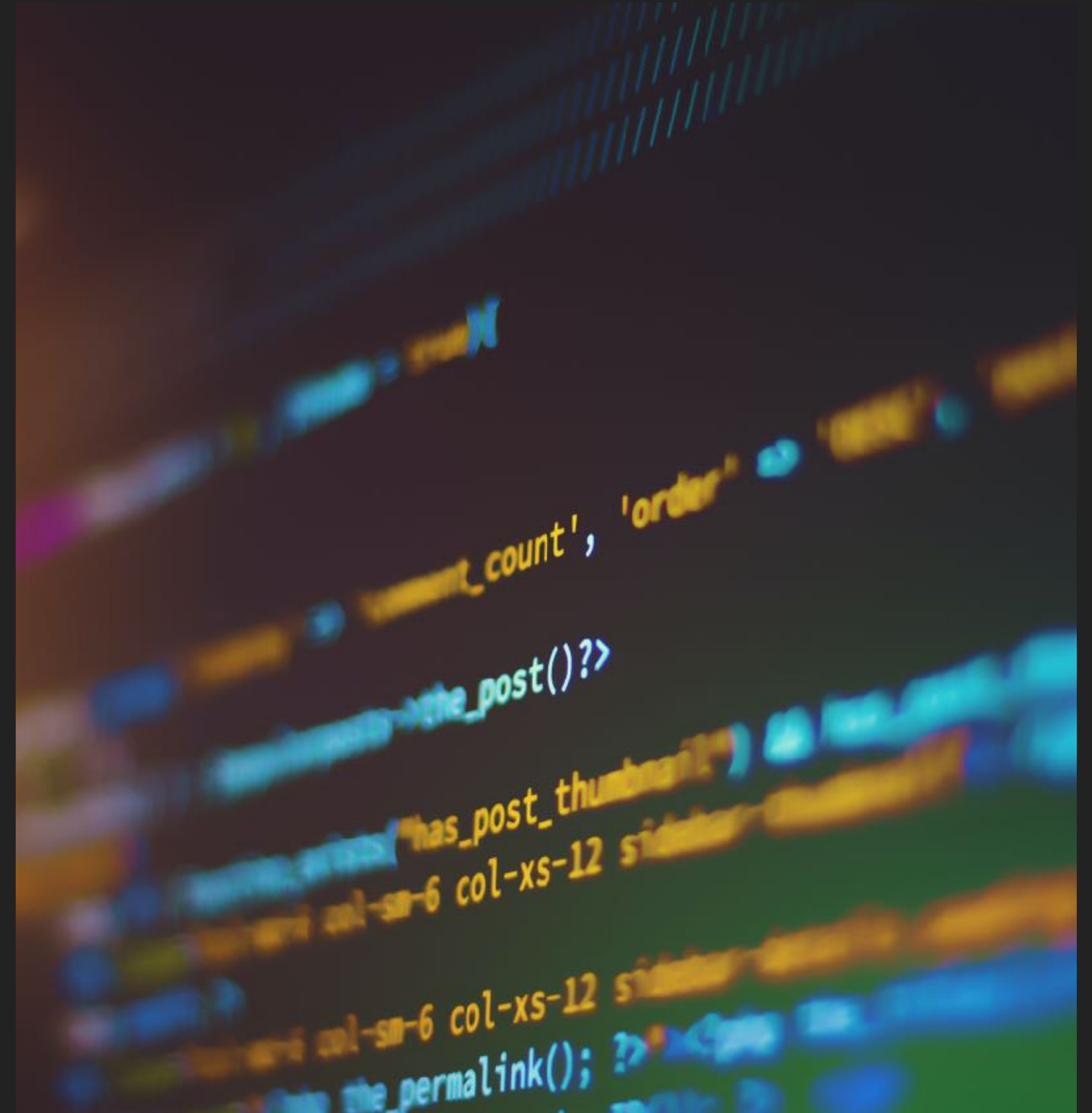
HOW DO I LEARN PYTHON?

HOW DO I LEARN PYTHON?

IT'S OKAY TO BE CONFUSED.
(REALLY!)

PYTHON COURSES

- ▶ Artificial Intelligence and Machine Learning (Dr. Craig)
- ▶ DataCamp
- ▶ Coursera, Udemy, edX
- ▶ BDAA Data Mastery (Carmen)
 - ▶ <https://docs.google.com/forms/d/e/1FAIpQLSf0O4YSLNYmJ9oXrtaZirbOjge2D7iIEF0-gyoOOCUrK73IbA/viewform>



PYTHON BOOKS

- ▶ Learn Python The Hard Way (Shaw)
- ▶ Automate the Boring Stuff With Python (Sweigart)
- ▶ Python Data Science Handbook (VanderPlas)

```
response = requests.get(url)
# load from the website
checking response.status_code (if you get 502, try re
if response.status_code != 200:
    print(f"Status: {response.status_code} - Try rerun
else:
    print(f"Status: {response.status_code}\n")

# using BeautifulSoup to parse the response object
soup = BeautifulSoup(response.content, "html.parser")

# finding Post images in the soup
images = soup.find_all("img", attrs={"alt": "Post image"})

# downloading images
i = 0
for image in images:
    # str(image)
```


HOW DO I LEARN PYTHON?

**PURSUE WHAT YOU'RE
INTERESTED IN.**



RECAP - HOW DO I LEARN PYTHON?

**YOU CAN LEARN PYTHON
LIKE EVERYTHING ELSE:
TAKE ONE STEP AT A TIME
AND BUILD CONFIDENCE
THROUGH PRACTICE.**

FISHER DATA ANALYTICS ORGANIZATION

THANK YOU!

MARCH 23, 2022