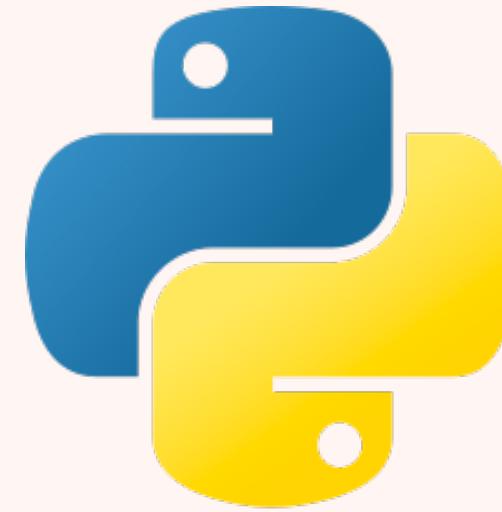
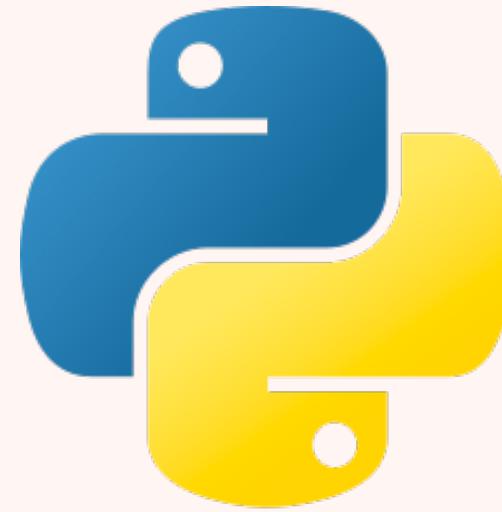

MIMS PYTHON BOOTCAMP

2023

George McIntire '22



THE WORKSHOP



- **This is a two-week workshop designed for people for little or no python experience.**
- **Curriculum covers all the introductory concepts as well as some intermediate ones as well.**
- **The workshop will prepare you for the required MIMS courses of 206A and 206B, as well as other Berkeley courses that use python.**
- **Workshop is recorded!**
- **Consists of lectures and live coding demonstrates by me along with exercises.**
- **We meet from 9-12pm PST Mon-Thurs on Zoom followed by a hour of office hours.**
- **Course materials are hosted on this [Github repo](#)**

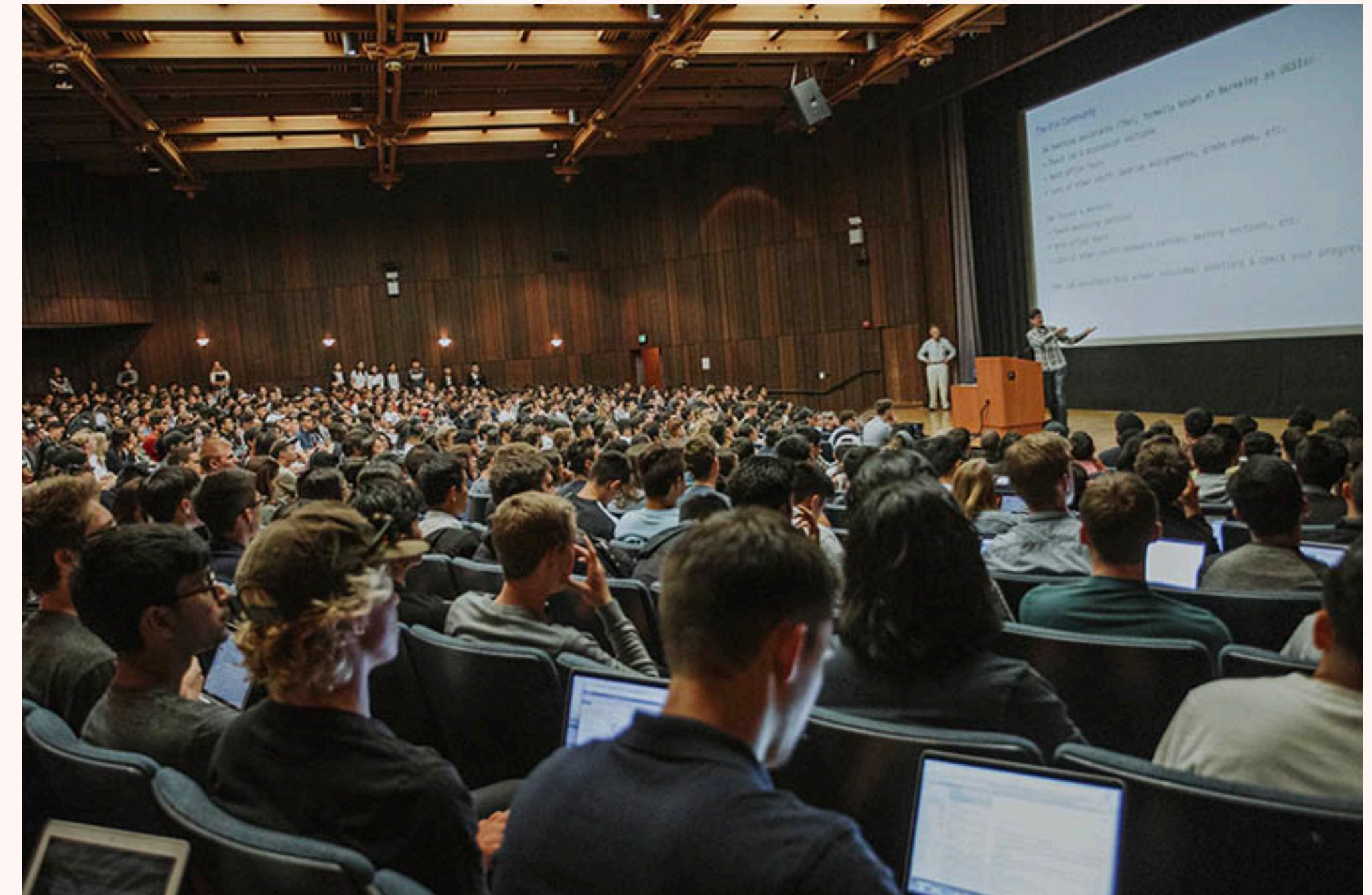
CURRICULUM

```
●●●  
import xlwings as xw  
import pandas as pd  
  
# Interactive mode: open a new workbook, write a pandas  
# DataFrame to "A1", then read it back. Requires Excel.  
book = xw.Book()  
mysheet = book.sheets[0]  
mysheet["A1"].value = pd.DataFrame({'one': [1, 2]})  
df = mysheet["A1"].expand().options("df").value  
  
# Reader mode: read all sheets that start with "Data_" and  
# store them as DataFrames in a dict. No Excel required.  
data = {}  
with xw.Book("myfile.xlsx", mode="r") as book:  
    for sheet in book.sheets:  
        if sheet.name.startswith("Data_"):  
            data[sheet.name] = sheet.cells.options("df").value
```

Day	Lesson Plan
Monday 7/24	Introduction, Environment Setup (Github, Python, Jupyter Notebook), Variables, Types, Strings
Tuesday 7/25	Strings continued, Errors, Conditional Flow
Wednesday 7/26	Lists & Tuples, Iteration, Comprehensions, Dictionaries
Thursday 7/27	Functions, Pythonic Coding, Review, and Exercises
Monday 7/31	Functions continued, Scope, Files
Tuesday 8/1	Exception Handling, Libraries
Wednesday 8/2	Libraries continued, OOP and Classes
Thursday 8/3	OOP/Classes continued, Exercises and Review

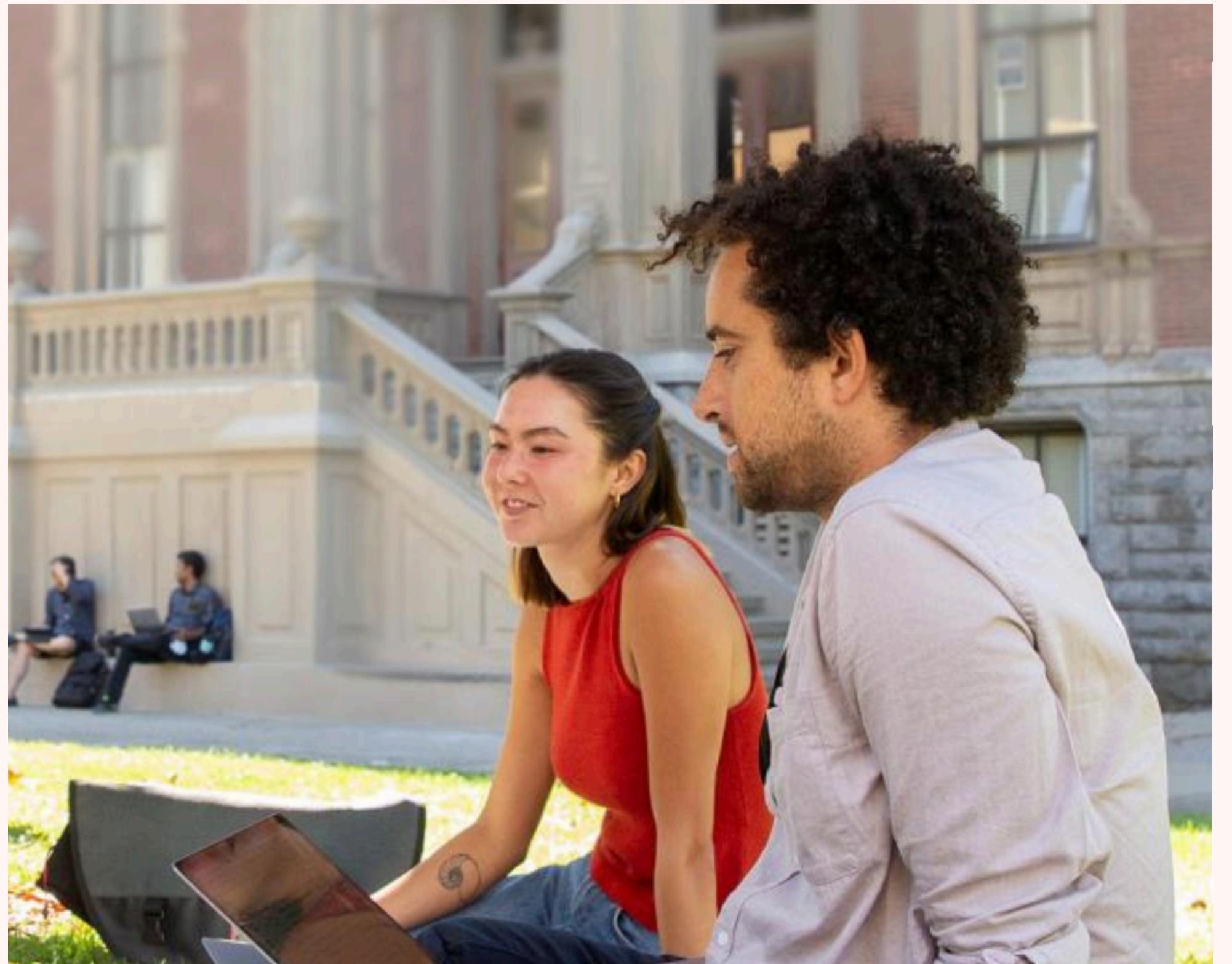
CLASS STRUCTURE

- **9:00 - 9:10am — “Berkeley Time”**
 - **9:10 - 10:30am — Lecture**
 - **10:30 - 10:35am — Break**
 - **10:35 - 11:30am — Lecture**
 - **11:30 - 12:00pm — Exercises**
 - **12:00- 1:00pm — Office Hours**



INSTRUCTOR

- **Class of 2022, Data Science Track**
- **Currently a freelance data scientist/educator**
- **Previous experience: data viz analyst and Twitter intern.**
- **D-Lab work**
- **Five years working as a data science educator (teaching and tutoring)**
- **If I can do it, you can too!**



DAY 1 AGENDA

- **Install Python/Git/Jupyter**
- **Download class materials from Github**
- **Learn:**
 - **Jupyter Notebook**
 - **Variables, Types (integers, floats, and strings)**

INSTALL PYTHON

- **Sign up for github account if haven't already done so**
 - **Installation check-in**
 - **Open up the “Install Software.pdf” file in the Day 1 directory.**
 - **Alternative way to install Python courtesy of the D-Lab**
-

DOWNLOADING AND ACCESSING MATERIALS

1. Click the green "Code" button in the top right of the repository information.
2. Open up terminal or command line and go to the directory where you wish to place the materials — use cd for mac and mv for windows.
3. Clone the materials by running this command git clone https://github.com/GeorgeMcIntire/MIMS2023_Python_Bootcamp.git
4. At the start of each class navigate the workshop directory and run git pull to download the latest class materials
5. Launch Jupyter by running bash command “jupyter notebook”

