INFO251 – Applied Machine Learning

Lab 1
Emily Aiken

Today's Agenda

- First ~20 minutes: Course logistics
    - About me
    - Lab goals and structure
    - Participation
    - Office hours
- Second ~30 minutes: Coding – a review of Python, pandas, and matplotlib
    - Download Lab 1 materials under **files** tab on bCourses

About Me

- Emily Aiken

- Email: emilyaiken@berkeley.edu

- Office Hours : Wednesday, 3-4pm

- 3rd year PhD student at the School of Information

- Background in computer science

- Research Interests – Machine learning, development economics, social protection, privacy/fairness/transparency

A Typical Lab Session

- **First 5-15 minutes**: Review key themes and concepts from lecture and introduce lab goals.

- **Next 30-40 minutes**: Structured lab exercise

  - Will work on a Jupyter notebook

  - Some labs may contain exercise questions that you will work on together in a group (not today)

  - From time to time will walk through specific questions and solutions

- **Last 5-10 minutes**: Open Q&A, which can turn into office hours

Goals of Lab Session

- To give you practical, hands-on experience implementing the concepts discussed in class and in the readings.

- To prepare you for the problem sets.

- To help you meet other folks in the class and potential study partners.

- To answer practical questions about applied machine learning.

Other Notes About Lab

- Attendance for Lab sections is **not** mandatory (but it can count towards your participation grade).

- You will not turn in assignments from lab – though you are welcome to complete them on your own.

- Labs are recorded, recordings will be available the day after in the **media gallery** on bCourses.

- All lab material (slides, notebooks) will be uploaded to bCourses in the **files** tab.

First Three Lab Topics

- **Today**: Crash course in Python, pandas, and matplotlib

- **Next Week**: Causal inference

- **Two Weeks from Now**: numpy, vectorized computation, computational efficiency

Participation

- Participation counts for 4% of your grade.

- Ways to participate:
  - Attend (and ask/answer questions in) lectures
  - Attend (and ask/answer questions in) labs
  - Come to office hours
  - Answer questions on Piazza

- Piazza note: Please read other related questions before asking your own.

Office Hours

- **Instructor office hours:** 11am-12pm on Tuesdays
  - **Where:** On zoom for now. TBD after in-person instruction resumes.
  - **What:** Conceptual questions, logistical questions

- **Reader (Lia and Uttam) office hours:** 10am-11am on Fridays
  - **Where:** On zoom throughout the semester
  - **What:** Best resource for questions on the problem sets

- **GSI office hours:** 3pm-4pm on Wednesdays
  - **Where:** On zoom for now. Both zoom and in-person options after in-person instruction resumes (South Hall room 6A)
  - **What:** Conceptual questions, questions from labs, questions on problem sets, logistical questions

Today's Lab Topics

- Python coding style

- Tips and tricks for coding in python

- Pandas

- Matplotlib and making beautiful plots

- Bonus material if time: Pandas exercises