Course Information

Jiaming Mao

General Information

Course website:

https://jiamingmao.github.io/data-analysis

- Github repo: https://github.com/jiamingmao/data-analysis
- Homework submission: http://l.xmu.edu.cn (SPOC; pw: raven)
- Discussion and announcements: WeChat Group

Course materials are continually updated and posted to the website and the Github repository. It is recommended that you clone the repo and pull regularly to get updates (here is information on how).

Teaching Staff

Instructor

- Jiaming Mao
  - Office: D303 Economics Building
  - Office Hour: by appointment
  - Email: jmao@xmu.edu.cn

This Course

This course offers a *unified* introduction to:

1. **Statistical learning**
    - Pattern recognition and predictive modeling
2. **Causal inference**
    - Causal effect and causal model estimation
3. **Reduced-form** and **structural econometrics**

- The goal is to equip you with both a solid theoretical foundation, and the tools to conduct empirical research using state-of-the-art technology.
- Lecture materials are written to be both deep conceptually and easy to follow technically.
- Methods are demonstrated with applications to actual and simulated problems in applied economics.

This Course

- There are no textbooks. We will rely on lecture notes.
- The course repo contains additional materials, notes, and resources for each lecture.
- This course is fast paced and covers a lot of ground.
    - It is *highly* recommended that you preview the lecture materials before each class and review them afterwards.
    - It is *also* recommended that you form study groups to discuss the materials and work together to understand them.

Computing

- You are expected to have some familiarity with *at least one* programming/statistical computing languages (`R`, `Python`, `Matlab`, `Stata`, etc.).
- Lectures are written in `R`.
- For homework and final project, you can choose *any* language you want.

Evaluation

Final Grade	**100%**
Homework	50%
Final Exam	30%
Final Project	20%

Homework

- Homework assignments are submitted on SPOC.
- One homework for each lecture:
  - Report on a lecture-related topic
  - Referee report on a lecture-related paper
  - Empirical applications of statistical and econometric methods
  - Completing "homework challenges" for extra credits
- You are encouraged to discuss and collaborate with classmates. Up to **2** individuals are allowed to work together on a single homework.

Where can I learn more?

- The Official Syllabus
- Recommended readings: https://jiamingmao.github.io/data-analysis/Info
- Related courses, programming resources, etc.: https://jiamingmao.github.io/data-analysis/Resources