CS 329P : Practical Machine Learning (2021 Fall)

0. Logistics

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https://c.d2l.ai/stanford-cs329p

Goals

- Machine Learning topics that matter but are often skipped

  - **Data**: collection, preprocessing, features, dataset shift, non-IID data

  - **Model training**: model selection, model tuning, transfer learning, distillation, multimodality, scalability

  - **Deployment**: efficiency, serving, fairness

- This is a practical course: write code (in Python)

- Project: practical ML research in a team (this way you'll use the techniques for real)

Course

- Time: Wed and Fri 9:45 -11:15 AM

- Slides and notebooks at https://c.d2l.ai/stanford-cs329p

- Discussion: piazza.com/stanford/fall2021/cs329p code: p932sc

- Videos on Youtube in 1-2 weeks after class
  (we need to record without students to comply with FERPA)

- No textbook (d2l.ai has some info), more pointers in slides

- Prerequisites: Python, basic statistics and machine learning

Homework

- 4 assignments **(each homework is 10% of the course)**

  - Due in 10/6, 10/20, 11/3, and 11/12

  - Will be posted 2 weeks before the deadline

  - Reference solutions may be based on students' submissions
    (we will acknowledge the student if we do so)

- You can be late by a total of 2 days for any reason

- 50/50 mix of programming and theory

- Team work (maximum group size is 4)

Exam

- Midterm exam only **(10% of the course but must not fail)**

  - 10/27

  - Open book but not open computer/phone/tablet etc …

  - Problems will be similar to homework

- Why

  - At least one individual test in person (so you can't outsource the class)

  - No final exam due to projects

  - Helps us to understand what we should change (if anything)

Project

- Centerpiece of the class **(50% of the course)**.

- Register a team and a tentative project by **October 1, 2021 (10%)**

- Midterm presentation on **October 15, 2021 (20%)**
  You must produce 1 pages documentation. ICML style files.

- Review project with the TAs by **November 3, 2021 (10%)**
  TA sign-off counts for **10%** of the course.

- Project presentation on **December 8 and 10, 2021 (20%)**

- Written project report counts **40%.**
  6 pages (up to 10 more for references & appendix). ICML style files.

This is a *teamwork* effort.

Have fun, learn stuff