Group Project: Organization

- Student teams will be announced (see the course schedule)
- Pick a project and get the instructor's approval on the topic.
- Every team has a team leader. The leader is picked by the TAs.
- A team leader organizes the communications between the team members, communicates with the team constantly to ensure the timely delivery of the expected output.
- Team leader role may be subject to extra credit depending on the efficiency of a team's performance and satisfaction of
- the team members.
- A team leader is responsible to report any problems regarding the team performance or team members to the instructor of the class as early as possible.
- Team leader must ensure that every task is delivered in a timely fashion and deadlines are met including the final project submission.
- Include the name of your team in the project's final submission.
- Size of each team is up to 5 students.
- The project deliverable include writing a research paper, sharing experimental results in Github code sharing platform, and presenting the project outcome in class through developing an interface to call your model.
- All projects will put to vote before the final exam.
- The team(s) winning the popular vote will be announced.

Group Project Guidelines

- Pick a topic and consult with your professor if needed (make an appointment and attend Office Hour)
- Some Public Datasets
    - https://archive.ics.uci.edu/ml/datasets.php
    - Find Open Datasets and Machine Learning Projects | Kaggle
    - https://console.cloud.google.com/marketplace/browse?filter=solution-type:dataset&_ga=2.161760574.328343085.1600146997-189771994.1600146997&pli=1
- Prepare a 1-page write-up explaining the goal of the project and deliverables.

- Create an action plan and a scheduled roadmap to meet the goals. This roadmap must be submitted with your report at the end of the quarter.
- The roadmap should address the following:
    - Describing the problem scientifically
    - Background study (literature review or related work)
    - Dataset Understanding and Exploratory Data Analysis
    - Developing Accurate Prediction Model(s)
    - Evaluation of the model(s) and Testing the performance
    - Developing a basic web-based front-end to invoke and run the model(s) on input data and display the prediction output
- Project report format is 1 column, single space, 11 pt. font , written in Latex , submitted as one pdf file
    - Outline
        - Introduction (1 page)
        - Literature review (1 page)
        - Dataset Description (1/2 page)
        - Proposed solution and experimental results (4-5 pages)
        - Conclusion and discussion (1/2 page)
        - References (no limit)
        - Overall size: 6-8 pages excluding references, about 5 pages of text and 4-5 figures in position, or at the end of the document
- The Github link to the source code of your project should be included in your final report.
- One page for the project roadmap.
- Submit the final report including all required material as one pdf file.
- In the final report, include visualizations, tables, and plots in your report to show trends and report the performance and training of the model. Figures need to have explanatory captions that explain the trend in them. Plots should also be used during exploratory data analysis. (here is a guide: https://towardsdatascience.com/a-gentle-introduction-to-exploratory-data-analysis-f11d843b8184)
- In the final report, reference figures properly in the report.

- In the final report, related work (or background or literature review) section, review related published papers with methodology which may help or inspire your research project. For instance, the dataset they used, or the selection of techniques they studied. You need to indicate how your work is different from these past works.
- In the final report, include your findings in the conclusion section.