Machine Learning

Project

General

- To enable the students to get **hands-on experience** in the design, implementation and evaluation of machine learning systems.

- Teams: **One student**

- Solve a practical machine learning **problem of your choice**.

- Use **Python**.

- Good projects involve using **alternative approaches** and evaluating their performance in solving the problem.

General

- Article: **Project-Based Learning for Data Scientists**: Becoming a Data Scientist just became a whole lot easier

- Author: Kishen Sharma

- Link: https://towardsdatascience.com/project-based-learning-for-data-scientists-df6a8f74e4a1

General

- **Marks:**
  – Report   10%
  – Presentation   10%

- **Timing:**
  – Week after the midterm exam: Submit proposal
  – Last lecture: Submit report & present project

Project Proposal

- One to two-page proposal
- Specify problem
- Specify sample size and source
- Structure
  - Title
  - Students' names
  - Problem definition
  - Data description
  - Samples

Research Report

- **Four to 8-page** report
- Use IEEE A4 conference template at
  - http://www.ieee.org/conferences_events/conferences/publishing/templates.html
- In the introduction, include
  - Motivation
  - Problem definition
  - Literature review
- **Describe your data** and development environment.
- **Specify the source of your base code**.
- **Describe any preprocessing, feature extraction and selection, techniques used, and post-processing**.
- Give results and comments.
- Give conclusions (work done, main results, future work).
- Include your source code in an appendix after the list of references.

Research Presentation

- Prepare Power Point slides
- Twenty minutes long
- Must be clear and useful presentation, must add knowledge to fellow colleagues