Machine Learning
Project Topics

- You may choose ***your project proposal*** from the following list or you may suggest any other project in Machine Learning field. In addition to following list, you can a lot of different machine learning project ideas in the web. In your project, you should apply machine learning methods to a problem domain. Your project should include a computational work.

- A single student or two students can select a project topic. If two students do their project together, they should clearly indicate their contributions in a separate page attached to their final project report. Projects done in a group to be more substantial than projects done individually.

- You should pick your project topic as soon as possible. You should write one page document for your project proposal, and submit your project proposal. (***by email and hard copy***).

- You should find at least two-three major papers in your project topic and read them. You should also find (or create) your own data set for your project.

- At the end of semester, you will submit ***your final project report*** (***by email and hard copy***). By email, send the pdf file and your original files (doc or latex files) of your final report
  - Prepare your final project report in the format of a conference article using IEEE double column format (5-8 pages).
  - In your final project report, you should use your own words. Do not cut and paste from the papers that you read.
  - Your final project report should contain at least the following sections in addition to a *title* and an *abstract*:
    Introduction – Describing the problem that you are attacking
    Related Work – Describe the related works here, and describe the relations with your work.
    Sections describing your computational work in detail – Describe the details of your computational work in these sections. If your computational work needs evaluation, do not forget to include evaluation sections.
    Conclusion – Give your concluding remarks and possible future works in this section.
    References – Give the references that are cited in your paper.

- With your final project report, you should send an electronic copy of each of the ***major papers that you read in your survey***.

- You should send your ***executable and source files of your project*** at the end of the semester. Make sure that I can execute your project on my PC.

- You should make a ***demo of your project*** to me at the end of semester.

Some Possible Project Topics:

- You may select a project from the following list or you can suggest a project related with Machine Learning.

Text Categorization

Each written document can be categorized according to its content. For example, the category of a newspaper article can be econmy, sport, etc. A text categorization system determines the category of a given document.

Author Identification

Determining the author of a given text.

Opinion Mining

Deciding the polarity (positive or negative) of views in customer review texts or texts in social media environments. This can be done for Turkish or English texts

Extraction of protein names in biomedical texts

Extraction of protein names in biomedical texts.

Extraction of protein interactions in biomedical texts

Extraction of relations between protein names in biomedical texts.

Extracting Affilated Universities from Authors Addresses

Using machine learning approaches extracting authors' affiliations from their address in articles.

Keyphrase Extraction for Turkish (or English)

Generation of keypharases of given texts.

Learning Machine Translation Rules

Learning translation rules from translation templates

Part of Speech Tagger

A learning based part of speech tagger for Turkish (or English)

Word Sense Disambiguation.

A learning based word sense disambguator for Turkish (or English)

Optical Character Recogntion

Recommendation System

Object Recognition in Images

Speech Recognition

Weather Prediction