20CS6037/5137 Fall 2017

Initial Project Description

Due Date

**BB, October 30th, 11:59PM**

**Student teams should submit the title and a one-paragraph abstract of the project.**

**The abstract should make it clear what your goal is, what resources (data, software, papers) you will use, and what we should expect to see at the end of the project.**

**Project Goal**

Encourage students to experiment with some of the machine learning algorithms we covered.

Students may like to concentrate on some aspects of an algorithm, e.g. selection of various parameters, and evaluate the algorithm for various settings/selections of these parameters. Or, students may select data sets and evaluate various algorithms on them.

**Requirements**

The project is to be completed either individually or in groups (same groups as for the homework assignments). Graduate students may like to choose the project such that it is helpful for their research.

All students will be required to write a project report. Unfortunately, due to the number of current teams, it will not be possible to have oral presentations of the projects (as I have had previously in this course).

A typical project will involve reading at least 2 papers and experimenting with machine learning algorithms on some interesting data set. Students may use existing resources (e.g. software) and are not required to re-implement existing algorithms if it is not necessary.

**Report Structure**

1. Introduction/motivation section: explain why the problem you are about to address is interesting and challenging
2. Basic Approach Section: Describe the basic approach that you will take. Algorithms discussed in class may be assumed as known. However, any algorithm that would not have been discussed in class should be described/summarized.
3. Experimental Setup: Describe the data set, along with any pre-processing steps that may have been carried out. Sufficient detail must be given so that anybody with access to your data could exactly reproduce the results.
4. Experimental Results: Describing results, along with a discussion of what you observed. It is important to ensure that you perform your experiments in such a way that results are meaningful (e.g., make sure you use cross-validation and report test set results). If appropriate, report running time and memory in addition to performance.
5. Conclusion section containing conclusions and possible future work directions.
6. References

Report Format

I will send more info on this.