

## CSE 5693 Machine Learning: Term Paper/Project

(proposal due Mar 31; paper/presentation due Apr 21)

The term paper is based on a mini-research project. The goal is trying to improve one of the learning algorithms you have studied. You may also devise new algorithms. Empirically you will compare your proposed improvement with:

- the original algorithm in the book and
  - a proposed improvement in a research paper
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### A. Proposal (10 points) [Due Mar 31, Mon]

At least one page, 12-point font, single spaced, 1-inch margins

1. Introduction: motivation and problem statement
2. Related work: existing approaches and limitations
3. Approach
4. Evaluation: data (at least two sets) and criteria
5. list of at least three related research papers

### B. Paper (80 points) and presentation (10 points) [Due Apr 21, Mon]

Paper: 7-10 pages, 12-point font, single spaced, 1-inch margins

Presentation: 15 minutes

1. Introduction (with Problem Statement)
  2. Related Work (3 research papers; discuss their limitations)
  3. Approach (your strategy: why it can overcome limitations of current techniques and exactly how it works)
  4. Empirical Evaluation
    - 4.1. Evaluation criteria
    - 4.2. Experimental data and procedures (description of the data, procedures include: preprocessing, parameters used)
    - 4.3. Results and analysis (results in graphs/tables and analyzing the results) [compare with the original algorithm in the book and a proposed improvement in one of the three research papers]
  5. Conclusion (Summary of findings, limitations and possible improvements)
- References (cited in the text)

Your paper will be evaluated mainly on the sophistication/innovation of your algorithm, the performance of your algorithm against the original algorithm and another one in a research paper, and your analysis of the results.