

## CSE 5800: Term Paper/Project

Due Nov 4, Wed, 6:30pm; Submit Server: course=ml-internet , project=plan , pdf file

Due Dec 2, Wed, 6:30pm; Submit Server: course=ml-internet , project=paper , pdf, source, README.txt, data, presentation in pdf

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

1. the original algorithm in homework assignment
2. a proposed improvement in a research paper (journal or conference)

Resources for research papers are on the course web site.

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### A. Plan (10 points) [Due Nov 4, Wed; pdf file]

At least one page, ACM format templates: <http://www.acm.org/sigs/publications/proceedings-templates>. Ignore “Categories and Subject Descriptors,” “General Terms,” “Keywords,” and copyright (bottom left).

1. Introduction: motivation and problem statement
2. Related work: compare/contrast existing approaches and discuss limitations
3. Approach: your initial idea
4. Evaluation: data (at least two sets) and criteria

References: list of at least three related research papers (each reference has authors, title, conference/journal, page numbers, year)

### B. Paper (80 points) and presentation (10 points) [Due Dec 2, Wed; pdf, source code, README.txt, data, presentation in pdf]

Paper: at least 4 pages, ACM format templates: <http://www.acm.org/sigs/publications/proceedings-templates>. Ignore “Categories and Subject Descriptors,” “General Terms,” “Keywords,” and copyright (bottom left).

Presentation: about 20 minutes

1. Introduction (with Problem Statement)
2. Related Work (at least three research papers; compare/contrast existing algorithms and discuss 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; each reference has authors, title, conference/journal, page numbers, year)

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.