

CSE 291, Fall 2017: Assignment

Instructions

This is an **open-ended** assignment in which you are expected to write a detailed report documenting your results. Please submit your solution (electronically) to the course TA by Monday of week 10 (Jianmo Ni: jin018@eng.ucsd.edu). This assignment is worth **50%** of the final grade.

This assignment may be conducted **individually or in groups of up to three**. The marking scheme is the same regardless of your group's size. Make sure to mention the names of all of your group members when submitting. Submissions should be in the form of a written report, which is expected to be at least six pages (double column, 11pt), or roughly 2.5-3 thousand words, plus figures, tables, and equations.

Tasks

Assignments will be graded based on their coverage of the following components:

1. Identify one (or more!) academic papers to **implement and extend**. These can be papers we have covered in class, or others you have found independently (though if it's anything that's not obviously a 'recommender system' then you should obtain prior approval).
2. Implement the idea described in the paper/s and **reproduce their results** to the extent possible. Describe any issues faced, and any modifications to the method (or data) that you needed to make in order to overcome them.
3. Describe a possible **extension or modification** of the paper in question. This could include (a) adapting a 'non-recsys' paper describing an optimization or ML approach to a recommender systems / behavioral modeling task; (b) adapting a recsys paper to a task from a different recsys domain, or to a substantially different dataset; (c) a specific technical extension to the work that can improve its performance, accuracy, or generalization ability; or (d) combining ideas from multiple papers to define a new model.
4. **Implement and evaluate** your proposed extensions/modifications. Make sure to describe and report appropriate baselines in order to properly assess and compare performance.
5. **Discuss** your results. Did your method succeed and why? Are your results significant? Do they lead to any new insights about the data/human behavior? What other extensions might you try next in light of your findings?

During week 6-7 you must also **present your approach** in class. You do not have to have finished the assignment by this time, but should present a proposal for the changes you plan to implement. Ideally you should have completed parts 1-3 by this time. The signup sheet for presentations will be posted on the class webpage.