

Algorithmic Game Theory: Final Project*

The final project will be done in groups of 2 students (working individually or in larger groups is discouraged and requires special permission). It consists of the following ingredients:

1. **Choosing a paper in the area of algorithmic game theory.** The paper can be chosen either from the posted list of suggestions, or from any conference or journal in the related area. The choice is subject to my approval. Approval will be given for a different paper for each group.
2. **Reading the paper.** Notice that some papers have additional versions online, which you can find using your favorite browser. Sometimes these versions have additional details which may be helpful in understanding the work. For further tips please refer to <https://cs.stanford.edu/~rishig/courses/ref/paper-reading-technical.pdf>.
3. **Getting familiar with the context of the related work.** This includes reading the description of related work that is covered in the paper and also searching for results that came after the paper. This can be found using, e.g., Google Scholar or similar databases.
4. **Studying a new question that is related to the paper.** This is the creative part of the project. You are expected to say something interesting that relates to the paper that is not currently known. Examples for directions to look into are: What can be said if we remove an assumption about the model? What can be said if we add an assumption about the model? What can be said if we restrict the family of valuations that are addressed? What can be said if we slightly relax the requirements of the problem? What can be said if we slightly strengthen the requirements of the problem?

You are not expected to strictly improve upon the results of the paper, although this would be great and may even result in a publication. What you are expected to do is ask an interesting question, and try to answer it. If you have a good question but cannot come up with an answer, then you can describe the directions you tried and the ways in which they were hard.

*This document is based on Keren Censor-Hillel's instructions for her Spring 2018 course "Distributed Graph Algorithms".

5. **Submitting a report about the work.** The report should describe the paper you read, the related work and state-of-the-art, and the new question you studied and its results. It should be *written succinctly* and typed in English (not hand-written), using your own words, as a scientific report. The report must be written in LaTeX, using the given template.

The due date for requesting papers is **November 30th, 2018**.

The due date for submitting the report is **March 9th, 2019**.

These are firm due dates which will not be extended.

On **December 31st, 2018**, each group will submit a mid-report. This report is intended to make sure that you are making progress, and is mandatory. It must contain at least the first part of the final report, which is the description of the paper you were assigned.

The grade for the project will be based on the following: (i) an estimate of how well you understand the paper, (ii) the quality and magnitude of the related work description (including later results), (iii) the creativity and novelty of the new result obtained in the project, (iv) the quality of the report, and (v) my general evaluation.