CS698W: Game Theory and Collective Choice **Jul-Nov 2017**

Project Report: That Awesome Project

Group member(s): Name 1, Name 2, and Name 3

Abstract

This is a one paragraph summary of your work. It should have the objectives, methods used (theoretical or experimental or both), and results.

1 Introduction to the problem

This includes the motivation of the problem: What problem are you considering? Why is this problem important?

1.1 Related work

A comprehensive and exhaustive survey of the literature. What part of the problem or related problem has already been solved? How different is your considered problem from that OR how does it complement that? For example: [CW87] shows result A and this is improved in [SLB08]. We pick a special subclass of this problem and provide a complete solution etc.

1.2 Brief overview of the report

This section explains which section does what. For example, we introduce the model is Section 2. Prove our main result in Section 3. Report our experimental findings in Section 4. We conclude this report in Section 5.

2 Formal model of the problem

[if it is an experimental project, this section should read as the "formal setting of the experiments" – which should also have all the terms/notation of the experiments defined in this one place]

This section sets up the notation and definitions you will be using in the rest of the report. Note that a better organized report should have all notation and definitions at one place so that someone navigating through the report knows where to find the definition of a term when found in some place in the paper. Only the definitions/explanatory terms that are very specific to a section, e.g., if a new abbreviation or term is introduced in the experiment section, should be introduced in that section.

3 Main results/findings

Theorem 1 *This is the first theorem.*

Proof: This is the proof of the first theorem. If proofs are long, place that in appendix. ■

4 Experiments/Simulations

Explain what is the setup of the experiments. For example, we randomly generate points on a unit square and create Erdös-Renyi graphs with connection probability p, where p varies from 0.1 to 0.9 in steps of 0.1 etc. If it is based on real datasets, mention where the datasets are available. The goal of this section should be to give enough information so that the reader can reproduce the experiment if need be.

5 Summary and Discussions

Summarize what has been done in different sections, what can we conclude from it, what is a good future direction of this work.

References

[CW87] D. Coppersmith and S. Winograd, "Matrix multiplication via arithmetic progressions," *Proceedings of the 19th ACM Symposium on Theory of Computing*, 1987, pp. 1–6.

[SLB08] Shoham, Yoav, and Kevin Leyton-Brown. "Multiagent systems: Algorithmic, game-theoretic, and logical foundations". Cambridge University Press, 2008.

Important Information

Weight Distribution: 10% for the motivation of the problem – Section 1, 30% on the literature survey – Section 1.1, 40% for the main (theoretical + experimental) results – Sections 3 and 4 together – this weightage cannot be further broken into sections, since different projects may have dissimilar amount of theory and experimental content, 20% for the presentation.

Page Limit: 5 pages including the references in this format. Do not change the font sizes or dimensions of the template. This limit does not count the appendices – which can have any length. Note that appendices are to support the claims in the main sections – and therefore that does not directly count towards the evaluation.

Note on presentation: The presentation should be ideally for 15 minutes. This should roughly follow the pattern of the report, but explaining the intuition and broad results rather than the details.

Appendices

A Proof of Theorem 1

Take your space to give the full details of the proof. Appendices do not count to the page limit.

B Additional Experiments

Plots that could not be presented in Section 4.