

## E1254 – Game Theory (Jan-Apr 2023)

### Game Theory Course Miniprojects (30 to 40 marks)

Each of you is now assigned a research paper for the miniproject. You are expected to do the following.

- Read the paper diligently. Read all the important related papers (cited in the assigned paper) thoroughly. Look at all citations to this paper and read those papers as well. See this video by Prof. Andrew Ng on how to read papers:  
<https://www.youtube.com/watch?app=desktop&t=160&v=733m6qBH-jl&feature=youtu.be>
- **March 1, 2023:** Make a two page summary of this work and related papers in your own words (repeat – in your own words) **(5 Marks)**. I will advise you where to upload this two page writeup. Use the NeurIPS template:  
<https://neurips.cc/Conferences/2021/PaperInformation/StyleFiles>
- **April 1, 2023:** Make a 10 page writeup of this topic in the above NeurIPS format and submit it. Use the above template. See this nice presentation by Dimitris Bertsekas on math writing: [https://www.mit.edu/~dimitrib/Ten\\_Rules.pdf](https://www.mit.edu/~dimitrib/Ten_Rules.pdf). There are other excellent articles on how to write papers well. I will advise you where to upload this 10 page writeup. In the 10 page writeup, there should be an abstract, introduction, review of relevant work (with positioning of this paper), main contributions with simplified proofs, etc. Page number 9 should be devoted completely to your own ideas on how the paper can be non-trivially extended/enhanced and to any other creative new directions. Page number 10 should have at least 20 key references with complete details. If you want to exceed 10 pages, there is no problem, please go ahead. I have uploaded a typical 10 page writeup (Sample-FinalReport.pdf) **(10 marks)**.
- **April 10, 2023:** Submit a 15 minute video presentation with 15 slides and upload to OneDrive. I will indicate the details later. I have uploaded sample slides (Sample-Slides.pdf). I have also provided a PPT template and PDF template to be used for slides. Please see  
[https://drive.google.com/file/d/1d-cR2G5XqgPuv9aMoXFHm-cW0ISrODEY/view?usp=share\\_link](https://drive.google.com/file/d/1d-cR2G5XqgPuv9aMoXFHm-cW0ISrODEY/view?usp=share_link)

for a sample video. Thanks to Ms Shruthi Gorantla for providing these **(10 marks for Video and 5 marks for slides)**.

- **Additional Bonus Marks:** Please note that you can get up to 10 additional bonus marks if you extend this work in a novel way and you are able to get some preliminary results. This could be written up in any number of pages in an appendix of the 10 page writeup.

- As soon as the 2 page writeups, 10 page writeups, slides, and video presentations are uploaded, they will all be made available to all of you, so you can get an idea of some of the best recent work in the area.

Please note that the miniproject provides a wonderful opportunity to dive deep into a topic of your interest. Above all, you have ample time and 40 marks are for the taking! If you have any questions, write an email to [narahari@iisc.ac.in](mailto:narahari@iisc.ac.in) or [barman@iisc.ac.in](mailto:barman@iisc.ac.in). Kindly do not spam the Teams conversations.

Best wishes,  
Narahari