

Project title

Your names + SCIPER

May 14, 2025

You can pose questions regarding your project by answering the following questions.

1. A Nash equilibrium in our game is a strategy profile such that: ...
2. An equilibrium in our game exists/might not exist based on results in ...
3. This is how we can find an equilibrium analytically (for a very small scale version of the problem if the problem is large): ...
4. These are computational tools we have used to compute an equilibrium in our game: ...
5. These are the simulation approaches we have used to compute/approximate an equilibrium in our game: ...
6. This is how we analyze the result of our simulations: ...

Questions from last time: ensure to have clarity on these before going to the above questions

1. Brief description: Our goal is to address ...
2. Players are: (who are the decision-makers in your game)
3. The action set of each player is $A^i = \dots$
4. The cost function of each player is $J^i(a^1, \dots, a^N) = \dots$
5. This is a one-shot/multi-stage (feedback, dynamic feedback) game - classify the game.
6. Most related past works are - You do the citation as follows. For books [1], for journals [2], for conferences [3].
7. Our work is similar to ... in that Our work differs from past work in that
8. So far, we have done the following for our project:
9. Our next steps are:

10. This is how each person in our group will contribute and how we work together:

Note on use of artificial intelligence (AI): If you use AI, you are required to clearly cite the tool used and specify exactly how you used it by attaching the prompt as an appendix to your report. Failing to do so can be considered plagiarism and dealt with penalty. You are accountable for any content you submit and you will be graded for the technical contributions, analysis and developments from you and not those from the AI.

References

- [1] F. Facchinei and J. Pang, *Finite-dimensional variational inequalities and complementarity problems*, Springer Science & Business Media, 2007.
- [2] G. Scutari, D.P. Palomar, F. Facchinei and J.S. Pang, *Convex optimization, game theory, and variational inequality theory*, IEEE Signal Processing Magazine. 2010 Apr 15;27(3):35-49.
- [3] P.G. Sessa, M. Kamgarpour and A. Krause A, *Bounding Inefficiency of Equilibria in Continuous Actions Games using Submodularity and Curvature*, Proceedings of the International Conference on Artificial Intelligence and Statistics, 2019.