COMP-579: Reinforcement Learning - Project Description

The course project can be carried out in **teams of at most 3 students** and its goal is to allow you to explore more in-depth a topic of your choice. Appropriate project topics include:

- Re-implementing and reproducing the results in a paper

- Ablation studies on an algorithm, to better understand its properties

- Comparing different algorithms on an interesting benchmark or dataset

- Implementing and testing new algorithmic variations

The first component is a project proposal, which should be submitted by Thursday March 19, 11:59pm. This should contain the following information:

- Proposed title and names of the students involved

- Short background and motivation (what do you propose to do and is your proposed topic interesting) - at most 5 sentences

- Methods (what data, simulators, baselines, papers are you going to work with and why) - at most 5 sentences

- References to the papers and resources you are going to use

The goal of the proposal is for us to assess if the topic is appropriate (not too hard and not too easy) and provide any feedback.

The submission for the project consists of:

- A short paper (up to 4 pages in NeurIPS format, excluding references) which includes: a short abstract summarizing the content of the project and the role of each team member (if appropriate); an introduction section which motivates why your project is interesting, a background section to define anything that you will use which *goes beyond the course material*, a methodology section which explains what you will do, experimental results section containing relevant plots and their description/discussion, a short conclusion and future work, which explains what other interesting things could be tried, a contributions and acknowledgements section, which describes what each member of the team did, and thanks anyone else who helped the project (eg people who may have designed libraries you built on or people who provided advice), and references (these do not count in the page limit).

- Any notebooks or relevant code

- A short video presentation (at most 4 minutes) which explains the highlights of your project

The project can be submitted without penalties until April 24, 11:59pm.
If you need suggestions for the project topic please contact Doina, Nishanth or any of the TAs