Reinforcement Learning Alternative Course Project

November 7, 2022

1   Introduction

The goal of the course project is to apply the knowledge gathered throughout the *Reinforcement Learning* (RL) course to a specific learning problem.

For the alternative project work, you can propose your own idea. This option is mainly aimed at PhD students who are interested in applying reinforcement learning methods to their areas of research.

When proposing your own topic, the main consideration is that the core part of the project *must* be related to reinforcement learning. Below you can find some guidelines and details about proposing an alternative project.

By committing to an alternative course project, the student understands that, due to the high number of enrolled students, the support from the teachers will be limited.

2   Project Proposal

If you'd like to propose your own topic, you should submit a document describing the project, the motivation behind it and your prior knowledge of the addressed problem. The document must be **one page long** and should cover the points below.

1. Abstract describing the RL project and its goal (topic and learning problem to be solved).

2. Motivation behind the project (why have you chosen the new topic and how can it contribute to the target field?).

3. Your prior knowledge of the problem you want to solve (such as your previous research done in the topic, the main issues that need to be addressed and the workload estimate).

4. Reinforcement learning methodology approach to be taken (algorithms you are planning to implement).

5. Initial status of the project (is the environment already built? Are you designing an algorithm from scratch?).

The deadline for submitting the proposal is **08.11.2022 at 23:55**. The student can start working on the project immediately **after the topic is approved** by the course staff.

3 Submission details

Below are described the guidelines on the final report submission and grading for the alternative project

3.1 Format

The final report should be structured into the following sections:

1. Introduction,
2. Method,
3. Experiments,
4. Discussion,
5. References.

There are two accepted formats for the final report.

1. **ICML LaTeX style**. ICML 2019 LaTeX style can be downloaded from: `https://media.icml.cc/Conferences/ICML2020/Styles/icml2020_style.zip`.

2. **NIPS LaTeX style**. NIPS 2019 LaTeX style can be downloaded from: `https://nips.cc/Conferences/2020/PaperInformation/StyleFiles`.

The **maximum length** of the final report is **6 pages**.

3.2 Submitting

The **deadline** to submit the course project report is **05.12.2022, 23:55**.

3.3 Grading and evaluation

The grading is in the same scale as for the students that perform the *Pong* Course Project — the project grade represents 20% of the total course grading. In exceptional cases, additional points might be given to the submitted project.

The grading will be based on the following criteria:

1. Level of contribution (methodology and experiments) — 75%.
2. Report quality — 25%.

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