INFO8003-1 Reinforcement Learning

Course Organisation

Contributors:

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Class Information & Resources

- Course website.
- Both theoretical and practical sessions.
- Assistants:
  - Arthur Louette (arthur.louette@uliege.be) 1/107 B28;
  - Raphaël Fonteneau (Raphael.Fonteneau@uliege.be) 1/107 B28.
- Course on Tuesday afternoon.
- Permanence after the course at the assistants' office.

Course content

Basic concepts

Lec 1-2-3
Introduction to
Reinforcement Learning
Damien Ernst

Value based RL

Lec 4
Advanced algorithms for
learning Q-functions
Gaspard Lambrecht

Policy based RL

Lec 6-7
Gradient based techniques
in continuous domain
Adrien Bolland

Low data

Lec 5
Advanced batch mode
reinforcement learning
Raphael Fonteneau

Partial observability

Lec 8
RL in partially observable
Markov decision processes
Gaspard Lambrecht

Multi-agent

Lec 9
Multi-agent reinforcement
learning
Pascal Leroy

Robotics

Lec 10
Robotic reinforcement
learning
Arthur Louette

NLP

Lec 11
Reinforcement learning
and large language models
Lize Pirenne

Practical sessions

- Given by Arthur & Raphaël.
- Goal:
  - Illustrating the concepts seen in the theoretical course;
  - Help for the projects and overall understanding.
- Q/A after each course.
- After session homework:
  - A jupyter notebook to complete and submit.
- Correction of the previous notebook.

Evaluation

60% Exam:

- All the courses, practical sessions and questions about the project;
- Advice: have a look at the evaluations of previous years.

40% Projects and Notebooks:

- Notebooks to submit after the practical sessions;
- One project in groups of 2 students.