Raphaël Avalos

Brussels, Belgium
raphael@avalos.fr

GitHub: raphaelavalos
Linkedin: raphael-avalos
Website: `https://avalos.fr`

EDUCATION

Vrije Universiteit Brussel - Ph.D. Candidate **2020-...**
Ph.D. Candidate in Multi-Agent Reinforcement Learning under the supervision of Prof. Ann Nowe and Dr. Diederik M. Roijers. Expected graduation October 2024.

ENS Paris-Saclay: MVA - Applied Mathematics for AI (Master 2) **2018-2019**
The MVA Masters program provides an advanced mathematical and experimental training in analysis, geometry, probability, and statistics, used in the study of current research on vision, hearing, learning and information theory, biological and medical imaging.
Courses: Convex Optimization (A. d'Aspremont), Reinforcement Learning (A. Lazaric), Object Recognition (J. Ponce), Probabilistic Graphical Models (F. Bach), Graphs in Machine Learning (M. Valko), Deep Learning (V. Lepetit), Speech and NLP (E. Dupoux), Kernel Methods (J.-P. Vert).
`Graduated with Highest Honor`

Telecom Paristech: Engineer in Computer and Data Science **2016-2019**
Telecom ParisTech is one of the top French public institutions of higher education and research (Grandes Ecoles) of engineering in France.
`GPA: 3.99/4 (first year), 3.82/4 (second year)`

Lycee Stanislas: Higher School Preparatory Classes **2014-2016**
Two years of intensive study in Mathematics and Physics to prepare the national engineering school admission competitve exam.
`GPA: 3.91/4`

AWARDS

FWO Fundamental Research Fellowship **2020**
Ph.D. fellowship for 4 years given by the Research Foundation of Flanders, Belgium.

CONFERENCE PUBLICATIONS

Local Advantage Networks for Cooperative Multi-Agent Reinforcement Learning
Extended Abstract
`Raphaël Avalos`, Mathieu Reymond, Ann Nowé, Diederik M. Roijers
AAMAS '22: Proceedings of the 19th International Conference on Autonomous Agents and MultiAgent Systems(2022).

Exploration and Communication for Partially Observable Collaborative Multi-Agent Reinforcement Learning *Doctoral Consortium*
`Raphaël Avalos`
AAMAS '22: Proceedings of the 19th International Conference on Autonomous Agents and MultiAgent Systems(2022).

WORKSHOP PUBLICATIONS

Local Advantage Networks for Multi-Agent Reinforcement Learning in Dec-POMDPs
`Raphaël Avalos`, Mathieu Reymond, Ann Nowé, Diederik M. Roijers
EWRL2022: The 15th European Workshop on Reinforcement Learning (EWRL 2022)

Autocurricula and Emergent Sociality from a Gene Perspective
Andries Rosseau, `Raphaël Avalos`, Ann Nowé
ALA 2022: Adaptive Learning Agents Workshop at AAMAS

Multi-agent RMax for Multi-Agent Multi-Armed Bandits
Eugenio Bargiacchi, Raphaël Avalos, Timothy Verstraeten, Pieter Libin, Ann Nowé and Diederik M. Roijers
ALA 2022: Adaptive Learning Agents Workshop at AAMAS

EXPERIENCE

Teaching Assistant **2020-2022**
VUB
Teaching assistant for the Computational Game Theory course.

Research Intern **January - April 2020**
Artificial Intelligence Lab Brussels (VUB)
Working on Multiagent Reinforcement Learning under the supervision of Prof. Ann Nowe.

Research Intern **April - October 2019**
INRIA - SequeL Team
Worked on Hierarchical Reinforcement Learning (HRL) applied to the Rubik's Cube under the supervision Dr. Florian Strub and Prof. Philippe Preux.

Teaching Assistant **July 2019**
Reinforcement Learning Summer School
Helped organize the Reinforcement Learning Summer School in Lille (150 participants), worked as a Teaching Assistant and with another intern was in charge of one of the practical sessions.

REVIEWING

Conferences: AAMAS 21/22, UAI 22
Workshops: ALA 21/22

STUDENTS

Master: Seppe Renty (2022)
Bachelor: Femke Geens, Alexandre Henri Szomonyak, Nicolas Anthony Rowies (2022), Abdoullah El Yachouti (2022), Olivier Delattre (2021)

PROJECTS

Implementation of *"Attention Solves Your TSP, Approximately"*: (Tensorflow) **2018-2019**
Implementation of *"Attention Solves Your TSP, Approximately"* (W. Kool et al., 2018) for the `Graphs In Machine Learning` class of Dr. M. Valko, under the supervision of Dr. P. Battaglia.

Image translation using Generative Adversial Networks: (PyTorch) **2018-2019**
Generating cartoon images in the Miyazaki's style from sketches and real pictures with GANs. This project was part of the `Object Recognition` class directed by Prof. Jean Ponce.

Creation of a connected pan handle, to help cooking: (Java) - Team of 6 **2016-2017**
Built a connected pan handle that could interact with an Android smartphone in order to help following recipes, create your own recipes and share them in a built in social network. I was in charge of the Android application and the system integration.

SKILLS

Languages: French *native*, Spanish *bilingual*, English *fluent - TOFEL iBT 103/120*
Computer Languages: `Python, Java, C, Bash, SQL,` LaTeX.
Fameworks/Library: `Tensorflow, Sonnet, Pytorch, Spark, Django, HBase, HDFS, Android.`
Web Development: `HTML, CSS, PHP, Apache, Symfony.`

INTERESTS

Cooking, Travelling, Hiking, Diving and more recently Kite-Surfing.