

REDA OUHAMMA

PhD candidate at Inria Lille - Seeking a Post-Doc in RL / Online decision making

<https://redaouhamma.github.io> ◇ reda.ouhamma@gmail.com

EDUCATION

PhD Candidate - Inria / University of Lille October 2019 - Present

Advised by Odalric-Ambrym Maillard & Vianney Perchet

Interests: Reinforcement learning; Multi-armed bandits; Online learning; Optimization

Master of Science - MVA - ENS Paris-Saclay September 2018 - August 2019

France's leading M.Sc. of Machine learning. Coursework: Deep Learning, Reinforcement Learning, Probabilistic Graphical Models and Convex Optimization

Engineering degree & Master of Science - Ecole Polytechnique August 2015 - August 2019

- Leading French *Grande Ecole*. Coursework: Probability and Statistics, Computer Science, Operations Research and Machine Learning

Preparatory Classes - Moulay Youssef High School September 2013 - June 2015

PUBLICATIONS

- **Reda Ouhamma**, Debabrota Basu, Odalric Maillard. “Bilinear Exponential Family of MDPs: Frequentist Regret Bound with Tractable Exploration & Planning”. To appear in AAI, 2023.
- **Reda Ouhamma**, Remy Degenne, Vianney Perchet, Pierre Gaillard. “Online Sign Identification: Minimization of the Number of Errors in Thresholding Bandits”. In *Neural Information Processing Systems (NeurIPS)*, 2021. (**Spotlight, top 3%**).
- **Reda Ouhamma**, Odalric-Ambrym Maillard, Vianney Perchet. “Stochastic Online Linear Regression: the Forward Algorithm to Replace Ridge”. In *Neural Information Processing Systems (NeurIPS)*, 2021.
- Yannis Flet-Berliac*, **Reda Ouhamma***, Odalric-Ambrym Maillard, Philippe Preux. “Learning value functions in deep policy gradients using residual variance”. In *International Conference on Learning Representations (ICLR)*, 2021.

WORK EXPERIENCE

Applied Scientist intern 06/2022 - 09/2022

- *Amazon Alexa AI*. Multi-armed bandits for improved exploration in Entity Resolution.

Teaching Assistant 09/2019 - 07/2021

- *ENS Paris-Saclay*. Course: Reinforcement learning; Instructors: Alessandro Lazaric, Matteo Pirota
- *University of Lille*. Courses: Introduction to Python, Algorithms and programming
- *Centrale Lille*. Course: Advanced Probability and statistics

Research Intern - Inria-SequeL 04/2019 - 07/2019

- Compositions of RKHSs for automatic representations in medical applications.

Quant Researcher Intern - Squarepoint Capital April - August 2018

- Extended existing portfolio optimization from Quadratic problems to Conic convex problems

Indexer Intern - Societe Generale June - August 2017

- Developed trading strategies on futures using time series analysis techniques

SKILLS

Programming Languages Python, C++, R, Java
Software & Tools PyTorch, LaTeX, Excel, Linux, Mosek: C/Python APIs

ACADEMIC PROJECTS

Computer Vision Project: Artistic Style Transfer 11/2018 - 01/2019
Image-to-Image Translation with Conditional Adversarial Nets and Cycle-Consistent Adversarial Nets

Master's project: R&D of EDF Paris-Saclay 11/2017 - 04/2018
Optimized pricing of electricity for an electricity network operator using the method of interior points

Bachelor's project: Implementation of a drone boat 02/2017 - 05/2017

AWARDS AND INTERESTS

Excellence scholarship: awarded to the **top 15 foreign students** at the french *Grandes Ecoles*.

Entrepreneurship - 3rd place in "Le Challenge Franco-Marocain de L'Entrepreneuriat"

Other: Drone enthusiast / Rowing / Debating