# REDA OUHAMMA

PhD candidate - University of Lille - Team Scool (previously SequeL)

https://redaouhamma.github.io/ ⋄ reda.ouhamma@gmail.com ⋄ (+33) 779-592-191

## EDUCATION

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

Advisors: Odalric-Ambrym Maillard, Vianney Perchet

· Interests: Reinforcement learning; Multi-armed bandits; Online learning; Game theory; Optimization

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

· France's leading Master of Science of Machine learning. Coursework: Probabilistic Graphical Models, Deep Learning, Reinforcement Learning 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*

## WORK EXPERIENCE

**Teaching Assistant**                                               09/2019 - 07/2021

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

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

· Compositions of RKHSs for provable representations in medical applications.

**Quant Researcher Intern - Squarepoint Capital**                 April - August 2018

· Extended a model for portfolio optimization: from QP to the larger class of Conic convex problems

**Indexer Intern - Societe Generale**                             June - August 2017

· Developed trading strategies on futures using time series analysis techniques

## PUBLICATIONS

· **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 session (**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*.

## SKILLS

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|---|---|
| **Programming Languages** | Python, C++, R, Java |
| **Software & Tools** | PyTorch/Jax, 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** - French ministry of foreign affairs: top 15 foreign students at the french *Grandes Ecoles* entrance exams.

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

**Other:** Drone enthusiast / Rowing / Debating