

# REDA OUHAMMA

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

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## EDUCATION

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**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

## PUBLICATIONS AND PRE-PRINTS

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- **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.
- **Reda Ouhamma**, Debabrota Basu, Odalric Maillard. "Bilinear Exponential Family of MDPs: Frequentist Regret Bound with Tractable Exploration & Planning". Pre-print, under review.

## WORK EXPERIENCE

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**Incoming Applied Scientist intern**

06/2022 - 09/2022

- *Amazon Alexa*. Expected projects: Bandits and Reinforcement learning techniques for NLP in general and improving text sequence predictions in particular.

**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 Pirota

**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

## SKILLS

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**Programming Languages**  
**Software & Tools**

Python, C++, R, Java  
PyTorch/Jax, LaTeX, Excel, Linux, Mosek: C/Python APIs

## ACADEMIC PROJECTS

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**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

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**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