

Rémi Leluc, PhD

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Education

- Télécom Paris** (Institut Polytechnique de Paris, France) 2019 - 2022
PhD in Applied Mathematics and Computer Science, supervised by [François Portier](#) and [Pascal Bianchi](#)
"Monte Carlo methods and Stochastic Approximation: Theory and Applications to Machine Learning"
Keywords: Monte Carlo, stochastic approximation, variance reduction, adaptive sampling. [\[PDF\]](#)
- École Normale Supérieure Paris-Saclay** (Cachan, France) 2018 -2019
MSc in Machine Learning and Computer Vision (MVA) Highest honours
Highly selective Master of Science program in mathematics, vision and machine learning.
Studied different aspects of machine learning such as optimization, stochastic methods, reinforcement learning, kernel methods, geometric approaches in statistical learning, deep learning.
- Télécom Paris** (Institut Polytechnique de Paris, France) 2016 - 2019
MSc in Applied Mathematics and Computer Science GPA 4.0
One of France's most prestigious competitive engineering schools (#1 in computer science).
- Lycée Condorcet** (Paris, France) 2013-2016
*CPGE MPSI-MP**: Intensive courses in mathematics, physics and computer science to prepare for competitive entrance exams to top engineering and science schools.

Research Experience

- École Polytechnique (CMAP)** (Palaiseau, France) Apr. 2023 - present
Postdoctoral Researcher working on Federated Learning. Supervised by [Aymeric Dieuleveut](#).
- Télécom Paris** (Institut Polytechnique de Paris, France) 2019 - 2022
Working towards a PhD in applied mathematics in the S2A team under the supervision of [François Portier](#) and [Pascal Bianchi](#). Publications in international peer reviewed conferences and journals (NeurIPS, ICML, JMLR). Teaching assistant for graduate level students.
- TotalEnergies OneTech** (Palaiseau, France) Oct. 2021 - Apr. 2022
Artificial Intelligence Researcher within the DataAI team of Sébastien Gourvénec.
Study and design reinforcement learning techniques for industry, filing of a patent.
- Télécom Paris** (Institut Polytechnique de Paris, France) Apr. 2019 - Sep. 2019
Research intern in the department IDS/S2A under the direction of François Portier.
Conducted research on Monte Carlo methods and variance reduction in high dimension.
- Ugam Solutions** (Bengaluru, India) Jul. 2018 - Sep. 2018
Data analyst intern: Study and deployment of a deep learning model for multiple object detection.

Technical and Soft Skills

Technical	Statistics, Probabilities, Optimization, Machine Learning
Computer	Python (NumPy, PyTorch, TensorFlow), L ^A T _E X, Git, Pack Office
Languages	French (native), English (fluent), Spanish (elementary), arabic (notion)
Soft Skills	Adaptability, Reliability, Curiosity, Positivity

Other/Interests

Music	Piano (+15years) and musical training at the conservatory
Leisure	Workout, Chess, Travels (US, Europe, Asia), Humanitarian trip in Cambodia

Publications

Control Variate Selection for Monte Carlo Integration

R. Leluc, F. Portier, J. Segers

Statistics and Computing 31 (2021)

Feature Clustering for Support Identification in Extreme Regions

H. Jalalzai, R. Leluc

International Conference on Machine Learning (ICML), 2021

SGD with Coordinate Sampling: Theory and Practice

R. Leluc, F. Portier

Journal of Machine Learning Research 23 (2022)

A Quadrature Rule combining Control Variate and Adaptive Importance Sampling

R. Leluc, F. Portier, J. Segers, A. Zhuman

Advances in Neural Information Processing Systems (NeurIPS) 2022

MARLIM: Multi-Agent Reinforcement Learning for Inventory Management

R. Leluc, E. Kadoche, A. Bertoncello, S. Gourvénec

NeurIPS Workshop on Reinforcement Learning for Real Life 2022

Membership Inference Attacks via Adversarial Examples

H. Jalalzai, E. Kadoche, R. Leluc, V. Plassier

NeurIPS Workshop on Trustworthy and Socially Responsible Machine Learning 2022

Asymptotic Analysis of Conditioned Stochastic Gradient Descent

R. Leluc, F. Portier

Under review

Speeding up Monte Carlo Integration: Nearest Neighbors as Control Variates

R. Leluc, F. Portier, J. Segers, A. Zhuman

Under review

Talks and Events

Seminar S2A (Télécom Paris)

Feb. 2023

Poster Session NeurIPS 2022 (New Orleans, Louisiana)

Dec. 2022

Seminar SIERRA (Inria, Paris)

Jul. 2022

Math for Machine Learning Summer School (Ben Guérir, Morocco)

Jul. 2022

Poster Session ICML 2021 (virtual)

Jul. 2021

Extreme Value Analysis (EVA) (virtual)

Jul. 2021

Seminar EDMH (virtual)

Apr. 2021

Bernoulli-IMS One World Symposium (virtual)

Aug. 2020

Machine Learning Summer School (MLSS) (virtual, 15% acceptance rate)

Jul. 2020

Workshop Probabilistic Methods in Computational Statistics (Télécom SudParis) *Nov. 2019*