

Romain ILBERT



PhD Student Graduated from ENSAE and Ecole Polytechnique

WORK EXPERIENCE

PhD in Representation Learning For Time Series

From 12/2021 to 05/2025

PARIS DESCARTES UNIVERSITY & HUAWEI - PARIS AREA

Short time contract followed by a PhD under the supervision of levgen Redko and Themis Palpanas

- Primary author and developer of SAMformer, a lightweight state-of-the-art forecasting model that surpasses previous benchmarks (Accepted as an Oral at ICML 2024)
- Data Generation for Time Series Classification (ICDE's workshop)
- Adversarial Machine Learning for Time Series Forecasting (ACM CCS's workshop)
- Analyzing Multi-Task Regression via Random Matrix Theory (Under review)
- SAMformer Extended: Joint Scheduling of Learning Rate and Loss Landscape Sharpness

Machine Learning Engineer Intern

From 05/2021 to 11/2021

SNCF - LA DEFENSE

Data Science Internship in Time Series Forecasting

- Crafted a model to predict train ticket sales across thousands of stations in France, achieving a national average MAPE of 10%, 92 days before train departures. Contributed to its national deployment.
- Used Microsoft Azure virtual machines and Jenkins for efficient model deployment
- Performed extensive SQL queries on large-scale datasets

Machine Learning Research Intern

From 06/2020 to 10/2020

CNRS - PALAISEAU

Research Internship in Computational Finance and Energy Markets

- Developed a quantitative strategy for maximizing wind energy producers' profits in intraday electricity markets
- Utilized TensorFlow and Stochastic Calculus to solve complex partial differential equations modeling optimal trading strategies
- Explored the Universal Approximation Theorem to apply neural network solutions

Quantitative Research Intern

From 06/2019 to 08/2019

ROTHSCHILD & CO - MONACO

Internship in Quantitative Finance and Portfolio Management

- Developed a quantitative model that achieved a 3.13-fold net performance increase over the Euro Stoxx 50 when backtested across the past 20 years
- Use of financial software (Facstet, Bloomberg) for data manipulation

EDUCATION

2018-2021 ENSAE Paris and Ecole Polytechnique – Palaiseau

France

• Master in Data Science at Ecole Polytechnique

Deep Learning, Statistical Learning, Computer Vision, Auction and matching, Recommendation systems, Reinforcement learning, NLP, Hackathon with Carrefour, Data Camp Astrophysics Project

• Master in Data Science and Statistical Learning at ENSAE

Advanced Optimization, Optimal Transport, Compressed Sensing, Online Learning, GPU Programmation (in C), Statistics (in R)

Applied statistics project with Banque de France : Co-clustering and PCR algorithm with missing data for the identification of underlying states of an economic and financial system

2016-2018 Lycée Masséna - Nice

France

• Classe préparatoire aux grandes écoles ECS1 - ECS2

Mathematics, Economics, Computer science, Geopolitics, English, Spanish, Philosophy, History & Geography, General Culture (HEC Maths 20/20, Essec Maths 20/20, Edhec Maths 20/20)

2014-2016 Lycée Masséna - Nice

France

• Classe préparatoire aux grandes écoles MPSI - MP

Mathematics, Physics, Computer science, Philosophy, English, Spanish option

OTHER EXPERIENCES

- Reviewed papers for ICML 2024
- Treasurer at KryptoSphère ENSAE (Crypto currency Association)
 - Coding in Solidity
- Member of the ENSAE theater association
- Mathematics Tutor (3 students in CPGE)

- 28 years old – french student
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- NANTERRE - FRANCE

SKILLS

• Mathematics

Statistical Learning, Statistics, Optimization, Linear Algebra, Probabilities, Topology

• Python

PyTorch, Tensorflow, Cuda, Numpy, Pandas, Scikit-Learn, Scipy, Keras, GPU Cluster Utilization, Matplotlib, Seaborn, Hugging Face Transformers

• Finance

Stochastic calculus, Arbitrage, Binomial and Black-Scholes models, Pricing, Replications of derivatives, Options, Portfolio Management, Trading, Quantitative Models

• Microsoft Office, Overleaf, Git, Coding in Solidity

LANGUAGES

- French Native Speaker
- English C1
- Spanish B2

INTEREST

• Sports

- Soccer
- Volley
- Table Tennis
- Gym

• Travels

• Music

- Drums
- Piano
- Rock

• Theater, Chess, Poems author