Ismael Lemhadri

Quantitative Researcher at Jump Trading. Statistics PhD from Stanford University.
Research background in feature selection and interpretable methods in machine learning.

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Work Experience

Jan 2022 – Present ***Quantitative Researcher – Jump Trading****, Jump Core Strategies, New York*
- Applying Machine Learning and Statistics to quantitative trading
- Quantitative Research (Python, Jax, PyTorch), Software Development (C++) and Performance Optimization

June – Sept 2021 ***Research Intern – The Voleon Group****, Berkeley, CA*
- Conducted state-of-the-art research on causal inference for market impact estimation

June – Sept 2019 ***Data Scientist Intern – Google****, Mountain View*
- Systematically analyzed and proposed novel variants of Ad Search Templates
- Analyzed large-scale A/B test data, improving Search Ads metrics by x% in production

2017 ***Research Intern – Jump Trading****, London*
- Designed, analyzed and implemented agent-based stochastic models for market impact
- Won the **Best Internship in Financial Mathematics Award** at Ecole Polytechnique
- Paper published at *Market Microstructure and Liquidity (2021)*

2017 – present ***Instructor in Mathematics and Statistics****, Stanford*
- Principal Instructor for the graduate-level *Statistical Learning* course
- Mentoring students on diverse research topics in Statistics and Machine Learning

Education

2019 – 2021 **Ph.D. in Statistics – *Stanford University*** *Stanford, CA*
- Doctoral Advisor: Prof. Robert Tibshirani

2017 – 2019 **M.S. in Statistics – *Stanford University*** *Stanford, CA*
- Minor in Computer Science - Artificial Intelligence track. GPA: 4.0/4.0

2014 – 2017 **B.S. in Applied Mathematics – École Polytechnique** *Palaiseau, France*
- Multidisciplinary B.S. – *with a focus on Applied Mathematics and Computer Science.*

Honors & Awards

2019	**Stanford Graduate Fellowship in Science and Engineering** – Hewlett Family Fellow
2018	François Monahan Foundation PhD Fellowship
2017	**Ranked 5th/**500 students at Ecole Polytechnique exit exam
2017	President of the Ecole Polytechnique International Amateur Piano Competition
2016 – 2017	**Top 10 Finalist** at the 2016 and 2017 editions of the Data Science Games, *Paris*.

Select Publications

2023 ***RbX: Region-based explanations of prediction models***
Ismael Lemhadri, Harrison H. Li, Trevor Hastie

2022 ***LassoNet: A Neural Network with Feature Sparsity***
Ismael Lemhadri, Feng Ruan, Louis Abraham, Robert Tibshirani
Journal of Machine Learning Research, 2021

2021 ***Neural Networks with Feature Sparsity***
Ismael Lemhadri, Feng Ruan, Robert Tibshirani
AISTATS 2022

2020 ***Market Impact in a Latent Order Book***
Ismael Lemhadri
Market Microstructure and Liquidity (2020)

2017 ***Community detection in the stochastic block model***
Ismael Lemhadri, Youssouf Emine
SIAM Conference on Mathematics of Data Science (2020)

2016 ***Rare-Event Estimation in Hawkes Processes with Applications to Twitter***
Ismael Lemhadri, Laurent Meunier

Skills

Programming Python (Jax, PyTorch, Numba), C++, R