Jerome-Alexis **Chevalier**

PhD Student in Machine Learning for Neuro-Imaging

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Summary

PhD student in machine learning working on the statistical control of sparse models in high dimension with application in neuro-imaging. Passionate by probability, statistics and coding, started by working in finance for more than two years before changing of career for machine learning. Decided to do a PhD after a year of master in data science in order to gain serious theoretical knowledge and learn coding best practices.

Education

Telecom ParisTech and Inria Paris-Saclay
Paris

PhD Candidate: Statistical Control of Sparse Models in High Dimension — *2017 - 2020*

- Worked on several models for high dimensional inference (Desparsified Lasso, Multi-Split, Corrected Ridge, Residual Bootstrap, ...)
- Worked on clustering and ensembling techniques suited for statistical inference
- Developed an algorithm (Ensemble of Clustered Desparsified Lasso) adapted for the statistical inference on neuro-imaging problems
- Compared algorithms using several neuro-imaging datasets (HCP, IBC, Haxby, Oasis, ...)
- Wrote research articles in English for machine learning conferences and journals
- Followed several machine learning courses (optimization, statistics in high dimension, kernel methods)

Universite Paris Diderot, Paris 7
Paris

Master of Science: Statistics, Probability and Data Science (M2MO, ex-DEA Laure Elie) — *2016 - 2017*

- Machine Learning, Datamining, Probability, Statistics, Stochastic Calculus, Python, C++

Essec Busisness School
Paris

Advanced Master: Financial Techniques — *2013 - 2014*

ENSEIRB-MATMECA
Bordeaux

Master of Engineering: Mathematical Modeling and Mechanics — *2010 - 2013*

Lycee Michel Montaigne
Bordeaux

Preparatory Class: Mathematics and Physics — *2008 - 2010*

Publications

MICCAI 2018 (Springer): Chevalier, J.A., Salmon, J., Thirion, B.: Statistical inference with ensemble of clustered desparsified lasso
Under review: Chevalier, J.A., Nguyen, B., Thirion, B.: Ensemble of clustered knockoffs for robust multivariate inference on fMRI data

Experience

Telecom ParisTech and Inria Paris-Saclay
Paris

PhD Candidate: Statistical Control of Sparse Models in High Dimension — *Sep. 2018 - Sep. 2019*

- Coding mission: contributed to Nilearn and Nistats machine learning libraries for neuro-imaging in Python

Amundi Alternative Investments
London

Quantitative Analyst in Alternative Investments — *Aug. 2015 - Aug. 2016*

- Developed and maintained quantitative tools to optimize the fund selection
- Built and backtested an automatized activist investment strategy
- Contributed to the monthly allocation strategy outlooks working closely with three teams (Equity, FI, Macro)

BNP Paribas Investments Partners - THEAM
Paris

Fund Manager — *Nov. 2014 - Jun. 2015*

- Managed a range of CPPI lifecycle funds (AuM Eur 1 billion)
- Implemented the investment process including the risky asset allocation and the interest rate hedging
- Developed investment tools to price OTC instruments, watch fund parameters and performance attribution

Oddo & Cie - Oddo Asset Management
Paris

Quantitative Investment Analyst — *Apr. 2014 - Oct. 2014*

- Built style indexes (Value, Growth, Quality, ...) and smart beta strategies to monitor market trends and develop new funds

Skills

Languages: French (native), English (fluent), Spanish (intermediate)
Programming languages and Softwares: Python (Scikit-Learn, Numpy, Scipy, Matplotlib), R, C++, Latex, Git, Atom