Jerome-Alexis **Chevalier**

PH. D. IN MACHINE LEARNING

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Summary

I recently obtained a **PhD in machine learning** that focuses on designing inference algorithms for neuro-imaging. I have a **three-year work experience** in quantitative investment. I decided to specialize in machine learning since I am **passionate about statistical learning and coding**. Now, I would like to **take part in concrete projects** that require machine learning skills.

Education

Inria Paris-Saclay and Telecom ParisTech — *Paris*

PHD CANDIDATE: STATISTICAL CONTROL OF SPARSE MODELS IN HIGH DIMENSION — *2017 - 2021*

- Studied and **implemented many high dimensional inference algorithms** to elect the most relevant solution for neuro-imaging purposes
- Tested several clustering and ensembling techniques that can combine with statistical inference and deal with data spatially structured
- Developed an inference method that **achieves state-of-the-art results** in neuro-imaging and **additionally brings statistical guarantees**
- Developed an **open source Python package** for high dimensional inference: HiDimStat `https://ja-che.github.io/hidimstat/`
- Wrote **6 conference/journal articles** including papers that focus on broad experimental validations or on theoretical developments
- Acquired **Python good practices**: collaborative work with GitHub, continuous integration, unit test, etc.

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: Chevalier, J.A., Salmon, J., Thirion, B.: Statistical inference with ensemble of clustered desparsified lasso
IPMI 2019: Chevalier, J.A., Nguyen, B., Thirion, B.: ECKO: Ensemble of clustered knockoffs for robust multivariate inference on MRI data
ICML 2020: Nguyen, B., Chevalier, J.A., Thirion, B., Arlot, S.: Aggregation of Multiple Knockoffs
NeurIPS 2020: Chevalier, Gramfort, Salmon, Thirion: Statistical control for spatio-temporal MEG/EEG source imaging with d-MTLasso
NeuroImage Journal 2021: Chevalier, Nguyen, Varoquaux, Salmon, Thirion: Decoding with confidence: Statistical control on decoder maps
Submitted to a statistical journal: Chevalier, Nguyen, Thirion, Salmon: Spatially relaxed inference on high-dimensional linear models

Experience

Inria Paris-Saclay — *Paris*

DOCTORAL CODING MISSION — *Sep. 2018 - Sep. 2019*

- Contributed to Nilearn **open source ML library** designed for neuro-imaging in Python which involves **100+ contributors / 1000+ users**

Amundi Alternative Investments — *London*

QUANTITATIVE ANALYST IN ALTERNATIVE INVESTMENTS — *Aug. 2015 - Aug. 2016*

- Developed and maintained a **fund ranking algorithm** to select the 100 ”best” hedge funds among the 1000+ referenced funds
- Contributed to the monthly allocation strategy outlooks **working closely with three different teams**: Equity, Fixed Income, Macro

BNP Paribas Investments Partners - THEAM — *Paris*

FUND MANAGER — *Nov. 2014 - Jun. 2015*

- Managed a range of CPPI lifecycle funds corresponding to more than **1 billion Euros of assets under management**
- Completed the full investment process on a day-to-day basis including the risky asset allocation and the interest rate hedging

Oddo & Cie - Oddo Asset Management — *Paris*

QUANTITATIVE INVESTMENT ANALYST — *Apr. 2014 - Oct. 2014*

- Built investment style indexes and smart beta strategies to monitor market trends and develop new funds

Skills

Programming: **Python** (Scikit-Learn, Scipy, Numpy, Pandas, Matplotlib, Seaborn), R, C++, Matlab
Tools: **Atom**, **Latex**, Git, Jupyter notebooks, Linux, GitHub CI, Travis CI, PyPI
Languages: French (native), English (fluent), Spanish (intermediate)