

MASSIL ACHAB

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EDUCATION

Ecole Polytechnique, Palaiseau, France 2014 - 2017
Ph.D. in Machine Learning
Topics: Point Processes, Convex Optimization, Granger Causality.
PhD thesis: Learning from Sequences with Point Processes.
Supervisors: Prof. Emmanuel Bacry and Prof. Stéphane Gaïffas

ENSAE, Malakoff, France 2013 - 2014
MSc in Statistics & Machine Learning
Master thesis: Quantum model of interest rates.
Supervisor: Dr. Taoufik Amri

Ecole Polytechnique, Palaiseau, France 2010 - 2013
BSc, MSc in Probabilities & Random Models
Bachelor thesis: Blackjack strategies with dynamic programming.
Supervisor: Prof. Stéphane Gaubert

EXPERIENCE

Ecole Polytechnique, Palaiseau, France 2014 (4 months)
Research Intern
Developped a state-of-the-art algorithm for fitting large-scale Cox model.
Supervisor: Prof. Stéphane Gaïffas

Banque Populaire Caisses d'Epargne, Paris, France 2013 - 2014 (7 months)
Research Assistant
Designed tools to model a yield curve using path integrals, based on Baaquie-Bouchaud model.
Supervisor: Dr. Taoufik Amri

Columbia University, Earth Institute, New-York, USA 2013 (3 months)
Research Intern
Improved analysis tools of a crop simulation model based on Ensemble Kalman Filter.
Supervisor: Prof. Amor Ines

PUBLICATIONS

[Analysis of order book flows using nonparametric estimation of branching ratio matrix](#), with E. Bacry, J.-F. Muzy, M. Rambaldi, *Quantitative Finance*, 2017.

[Uncovering Causality from Multivariate Hawkes Integrated Cumulants](#), with E. Bacry, S. Gaïffas, I. Mastromatteo, J.-F. Muzy, *International Conference on Machine Learning*, 2017

[SGD with Variance Reduction beyond Empirical Risk Minimization](#), with A. Guillaoux, S. Gaïffas, E. Bacry, *International Conference on Monte Carlo Methods and Applications*, 2017.

TECHNICAL STRENGTHS

Computer Languages	Python, C++, JavaScript, Scala, Spark, French (native speaker), English (fluent), German (intermediate)
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EXTRACURRICULAR ACTIVITIES

Writing	Keen writer of poems for the Ecole Polytechnique's magazine.
Sports	Football, Half marathon.