

Thibault VATTER, PhD

DATA SCIENTIST

413 East 69th Street
Room BB-1228
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- R, Python, C, C++, SQL
- Statistics and Machine Learning
- Data-Driven Business Intelligence
- Data Mining and Visualization
- Predictive Analytics and Quantitative Modeling

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EDUCATION

2012 – 2016	PhD in Statistics, University of Lausanne (HEC Lausanne) Specialization: multivariate statistics and financial econometrics Advisor: Prof. Valérie Chavez-Demoulin Thesis: “Generalized Additive Modeling for Multivariate Distributions”	Lausanne (Switzerland)
2010 – 2012	MSc in Physics, Swiss Federal Institute of Technology (EPFL) Minor in Financial Engineering, Swiss Finance Institute	Lausanne (Switzerland)
2006 – 2010	BSc in Physics, Swiss Federal Institute of Technology (EPFL)	Lausanne (Switzerland)

PROFESSIONAL EXPERIENCES AND PROJECTS

2016 (5 months)	HEC Lausanne – Post-doctoral researcher with Suzanne de Treville Tasks: operational research. Outcomes: a framework to forecast the intra-daily demand of >100 products in 10 retail stores using quantile regression forests.	Lausanne (Switzerland)
2016 (8 months)	EPFL – Post-doctoral researcher with Anthony C. Davison Tasks: research on the homogenization of climate records. Outcomes: a method combining robust statistics and generalized additive models to detect/correct non-climatic inhomogeneities (e.g., relocations or instrumentation upgrades).	Lausanne (Switzerland)
2015 – 2016 (8 months)	swissQuant Group AG – Junior Quant Engineer Tasks: (a) consulting for the Chicago Mercantile Exchange, and (b) quantitative asset management. Outcomes: (a) a risk model for >1'000 futures, vanilla, and exotic products on energy commodities using EWMA's and moving PCAs, and (b) strategy development and day-to-day handling of a quant fund.	Zurich (Switzerland)
2013 – 2015 (2 years)	HEC Lausanne – Graduate teaching assistant Tasks: teaching statistics to 900 students. Outcomes: emphasis on statistical computing using a browser-based RStudio interface running on a Linux server.	Lausanne (Switzerland)
2012 – 2013 (6 months)	University of California, Berkeley – Visiting scholar Tasks: research on intra-daily foreign exchange returns. Outcomes: development of a MATLAB tool to model trends and periodic patterns in high-frequency financial data using time-frequency decompositions (CWT, STFT and SST).	Berkeley (USA)
2012 (6 months)	Swissquote Bank Ltd – Graduate research intern (master thesis) Tasks: investigating the combination of investor's subjective views and quantitative portfolio allocations. Outcomes: prototyping methods (Black-Litterman, Meucci, etc.) in R to integrate them in a digital wealth management tool.	Gland (Switzerland)
2010 – 2011 (1 year)	Swissquote Bank Ltd – Two semester projects Tasks: modeling the dependence structure of daily asset returns with minimum spanning trees and maximally planar graphs. Outcomes: development in C and R of filtering and visualization tools for large correlation matrices.	Gland (Switzerland)

LANGUAGES AND COMPUTER SKILLS

Languages	English (full professional proficiency), French (native), German (basic)
Computer skills	Engineering softwares – R, Mathematica and MATLAB/GNU Octave Programming languages – Python, C, C++, L ^A T _E X and SQL