

# Thomas Lucas

FINANCIAL SOFTWARE ENGINEER

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Looking for opportunities in Data Science

## Experience

### Partners Capital

London, United Kingdom

SENIOR ASSOCIATE FINANCIAL SOFTWARE DEVELOPER

July 2014 - PRESENT

- Data Driven Equity Research: manager selection and portfolio construction using quantitative methods and tools.
- Agile development of the in house software for front office and operations including the creation of dashboards, dynamic visualizations and Microsoft Office add-ins. By automating the production of PowerPoint slides, I saved around 3 hours of work per analyst per week.

[Python (Pandas, NumPy, scikit-learn, Seaborn) - Javascript - jQuery - D3.js - PHP - C# - MySQL - Statistics - Machine Learning - HTML - CSS - SVN - Team of 9 people]

### La Banque Postale Structured Asset Management

Paris, France

FINANCIAL ENGINEERING INTERN - STRUCTURING AND FUND MANAGEMENT TEAM

June 2013 - November 2013

- Audit of 40 existing pricers and conception from scratch of 6 pricers dedicated to new products (formula funds, structured swaps)
- Creation and integration of a backtesting unit on the internal C# .NET structuration platform to improve and replace the old Excel tool: 51 different option payoffs available.

[VBA - Excel - C# .NET - WPF - Numerix - Bloomberg - SQL - Financial Mathematics - Two-person team]

## Education

### M.Sc. Financial Engineering and Computer Science - Honours

Grenoble, France

ENSIMAG - GRENOBLE INSTITUTE OF TECHNOLOGY - Major in Information Engineering and Financial Mathematics

2009 - 2013

### Master's degree in Quantitative Finance - Honours

Grenoble, France

PIERRE-MENDES-FRANCE UNIVERSITY, IAE

2012 - 2013

### French Grandes Ecoles Preparatory Class - Physics, Mathematics & Engineering Sciences

La Rochelle, France

LYCEE JEAN DAUTET, LA ROCHELLE - Preparing for the national competitive exam for entry to engineering schools

2006 - 2009

## Skills

**Programming** Python (Pandas, NumPy, scikit-learn) - D3.js - Javascript - SQL - C# - Java - Shell Script - jQuery - PHP

**Software** R - Jupyter Notebook - Git - SVN -  $\LaTeX$  - Unix / Linux

**Mathematics & Finance** Inferential and Multidimensional Statistics - Machine Learning (supervised and unsupervised learning)

Introduction to Information Retrieval - Monte-Carlo Methods - Financial Markets

**Languages** French [Native] - English [Full professional proficiency - TOEIC 960/990] - Spanish [Limited working proficiency]

## Workshop

### Data Science Intensive Workshop

Online

SPRINGBOARD

November 2015 - May 2016

Online Data Science intensive program mentored by an experienced data scientist from the Bay Area with focus on Data Wrangling, Analysis and Visualization, Inferential Statistics and Machine Learning and materialized by the realization of a **Capstone Project** of my choice.

The objective of this project was to analyze, illustrate and visualize the characteristics of popular music from 1960 to 2015 based on data from the *Billboard* Hot 100 year-end rankings. This analysis can be found on my blog, and its source code on GitHub.

[Python (SciPy, Pandas, Numpy, scikit-learn) - D3.js - HTML - CSS - BeautifulSoup - GitHub]

## Academic Projects

### Study of the profitability ratio of the BNP stock between 01/01/1993 - 12/31/2012

STATISTICAL STUDY OF DAILY, WEEKLY AND MONTHLY FINANCIAL DATA AND TIME SERIES MODELING

2013

- Statistical study of the profitability ratio distributions (descriptive statistics, hypothesis testing, probability plots)
- Time-series modeling: firstly using linear models (ARMA) and then using heteroscedastic models (ARCH and GARCH)

[Written in R - 3-student team]

### Multidimensional Statistics Analysis Projects

THREE CONSECUTIVE PROJECTS COMBINING GENETIC, MEDICAL AND GEOGRAPHICAL DATA

2012

- Analysis of correlations between measures and blood rate of particular prostatic antigen
- Use of genetic markers to predict geographical origin (I) and continental location (II) of American Indians

[Written in R - Algorithms used: linear regressions / PCA / classification methods (LDA, k-nearest neighbors) / cross-validation / split validation - 2-student team]

## Interests and Other Skills

**Sports** Bodyboarding - Surfing - Climbing - Tennis (ranked player) - Athletics - Hiking - Mountaineering

**Travelling** USA - Canada - Thailand - Canary Islands - Greece - Italy - Spain - Austria - Switzerland - Netherlands