

## EDUCATION

### University Paris Dauphine-PSL

Master 2, Mathematics Research Master's degree –MASEF, Financial Mathematics Major

Paris, France

2020-2021

Python projects:

- American, European Options, and Worst-Of Autocallables Pricing, using Monte Carlo and Finite Difference Methods.
- Asian, Lookback, and Digital Options Pricing, using: "Multilevel Monte Carlo Path Simulation." Michael B. Giles, Oxford Man Institute of Quantitative Finance. (2008)

### University Paris Dauphine-PSL

Master 1, Mathematics – Statistics Major

Paris, France

2019-2020

Master's thesis: "Correlation between toponymy and geography of French municipalities" (Implemented in R), supervisor Robin Ryder

C++ project: Vector, Matrix & Tensor classes implementation

### University Paris Dauphine-PSL

Bachelor of Science, Mathematics– Probability Major

Paris, France

2016-2019

Python project: Double Pendulum Chaos Motion

R project: Random Variables Simulation Methods, Variance Reduction Methods

### University of Greenwich

Master of Science, Banking & Finance (Distinction)

London, United Kingdom

2015-2016

Master's thesis: "Political risk and foreign exchange market: an exploration of the brexit impact on the sterling", supervisor Lianfeng Quan

### IPAG Business School

Master 2, Financial Markets

Paris, France

2011-2016

Master 1, Corporate Finance

### Waterford Institute of Technology

Erasmus, Economy

Waterford, Ireland

2013-2014

### Lycée Charles Baudelaire

Scientific Baccalauréat, Mathematics Major (Honors)

Paris, France

2011

## RESEARCH PROJECTS

### Multilevel Monte Carlo Path Simulation

2020-2021

Implemented with Python the Multilevel Monte Carlo method and reproduced Michael B. Giles' results

- Multilevel Monte Carlo improves the classic Monte Carlo method by reducing the computational complexity
- For a same level of precision, the multilevel method runs 10 to more than 1000 times faster
- Priced Asian, Lookback, Digital, and European Options
- Implemented Black-Scholes and Heston models, Milstein and Euler discretization schemes

### Worst-Of Autocallable

2020-2021

Implemented with Python a 2 assets worst-of autocallable pricer (Eurostoxx50 & CAC40)

- Each asset has its own coupon value, its own paying and redemption barriers
- Used historical correlation, implicit volatility, Black-Scholes model

### Correlation between toponymy and geography of French municipalities

2019-2020

Implemented with R different machine learning algorithms to predict French cities' location using only their toponymy

- Data: 35000x10
- Logistic regression to predict regions, random forests for latitude/ longitude
- Models prediction accuracy exceeded 90% in some areas of France

## SKILLS

**Language:** French (Mother tongue), English (Fluent), Persian (Fluent), Spanish (Professional proficiency)

**IT:** R, C++, Python, LaTeX, Microsoft Office (Excel, Word, PowerPoint)

**Academic:** Probability, Statistics, Stochastic calculus, Monte Carlo methods, Black Scholes model, Machine Learning in finance

**Esport:** Mobile Legends: Luo Yi Champion, 293 World Rank, Top 10 France, 1<sup>st</sup> Paris

## WORK EXPERIENCE

### Killik & Co Analyst

London, United Kingdom

Front Office Analyst at KILLIK & Co, first French intern in the firm

Apr.-Sept. 2015

- Assisted 4 stockbrokers who trade and advise on a wide range of instruments including equities, corporate bonds, gilts, funds, derivatives and CFDs
- Produced monthly reports of the 10 branches' trades. Implemented macros on excel to deal with heavy spreadsheets
- Conducted portfolio analysis and reviewed asset class weighting with a focus on Investment trusts and Unit trusts
- Formulated reports and did presentations of investment opportunities and prominent equities identified from personal research and study of research notes
- Regularly attended meetings with companies or fund managers to get updates or IPO presentations