Bryan DELAMOUR

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EDUCATION

University Paris Dauphine-PSL — Paris, France
Master 2, Mathematics Research Master's degree –MASEF, Financial Mathematics Major — 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)*
- *Neural Networks Hedging under Rough Bergomi model: "Deep Hedging Under Rough Volatility" Horvath B. Teichmann J. Zuric Z. (2021)*

University Paris Dauphine-PSL — Paris, France
Master 1, Mathematics – Statistics Major — 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 — Paris, France
Bachelor of Science, Mathematics– Probability Major — 2016-2019
Python project: Double Pendulum Chaos Motion
R project: Random Variables Simulation Methods, Variance Reduction Methods

University of Greenwich — London, United Kingdom
Master of Science, Banking & Finance (Distinction) — 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 — Paris, France
Master 2, Financial Markets — 2011-2016
Master 1, Corporate Finance

Waterford Institute of Technology — Waterford, Ireland
Erasmus, Economy — 2013-2014

Lycée Charles Baudelaire — Paris, France
Scientific Baccalauréat, Mathematics Major (Honors) — 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*
- *Python Library created for the Multilevel Monte Carlo method (in course)*

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, implied volatility, Black-Scholes model*

Deep Hedging Under Rough Volatility — 2019-2020
Implemented with Python hedging strategies using Neural Networks and Rough Volatility models
- *Reproduced Horvath B. Teichmann J. Zuric Z. results*
- *Neural Networks hedging performs as fast/precise as stochastic models hedging*
- *Simulation of fractional Brownian motion with circulant method: Wood & Chan (1994)*
- *Python Library created for fractional Brownian motion, rBergomi and rHeston models simulation (in course)*

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 toponomy
- *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), Persan (Fluent), Spanish (Professional proficiency)
IT: R, C++, Python, LaTeX, Microsoft Excel, Microsoft Word, Microsoft PowerPoint
Academic: Equity Derivatives, Stochastic Calculus, Monte Carlo Methods, Multilevel Monte Carlo, Black Scholes Model, Heston Model, rBergomi Model, rHeston Model, Rough Volatility, Deep Hedging, Neural Networks, Fractional Brownian Motion
Esport: Mobile Legends (100 million active players): Luo Yi Champion, 293 World Rank, Top 10 France, 1st Paris