



Mame Diarra TOURE

Montréal/Canada | +1 579 589 1038

mame.toure@mail.mcgill.ca

github | linkedin

ABOUT ME

I am currently a PhD student in the department of mathematics and statistics of McGill University. I graduated Magna Cum Laude from a joint program in applied mathematics and computer science at ENSIIE and University of Paris Saclay. I am a fellow of the Jacques Hadamard Mathematic foundation which awarded me the Sophie Germain excellence scholarship for my master in quantitative finance. I am mostly interested in the research field of machine learning and deep learning and their application in industry particularly in quantitative finance.

EDUCATION

MCGILL UNIVERSITY, MONTRÉAL, CANADA

2022-2025

PHD STUDENT IN THE DEPARTMENT OF MATHEMATICS AND STATISTICS.

UNIVERSITY PARIS SACLAY, PARIS, FRANCE

2019-2021

MSC IN QUANTITATIVE FINANCE WITH HIGH HONORS (MENTION BIEN/ MAGNA CUM LAUDE)(DOUBLE DEGREE)

• Stochastic calculus, Financial Mathematics, Numerical Finance (Finite Differences, Monte Carlo procedure, PDE approach ...), Financial modelling, Interest rate modelling, Machine Learning, Deep Learning, Stochastic Control, Stochastic analysis, Statistics, markets and financial instruments

ENSIIE (NATIONAL SCHOOL OF COMPUTER SCIENCE FOR INDUSTRY AND BUSINESS)

2018-2021

ENGINEERING DEGREE IN APPLIED MATHEMATICS

• Main courses: Probability, Statistics, Optimisation, Operational Research, Machine Learning, Data analysis, Graphs Theory, Stochastic processes, Stochastic Calculus, Simulations Methods, Numerical Analysis, Financial Markets, Functional analysis, Time series analysis.

UNIVERSITY EVRY VAL D'ESSONE, EVRY, FRANCE

2018-2019

BSC IN MATHEMATICS WITH HIGH HONORS (MENTION BIEN/ MAGNA CUM LAUDE)(DOUBLE DEGREE)

SAINT CHARLES HIGH SCHOOL, ORLÉANS, FRANCE

2016-2018

PREPARATORY SCHOOL FOR NATIONAL COMPETITIVE ENTRANCE TO FRENCH ENGINEERING SCHOOLS

PROFESSIONAL EXPERIENCE

JACOB

May 2022- Now / Montréal

RESEARCH INTERNSHIP: MACHINE LEARNING FOR INDUSTRY

SOCIÉTÉ GÉNÉRALE

November 2021- January 2022 / France

QUANTITATIVE ANALYST: PD AND LGD MODELING REGARDING THE HAUSSMANN PROJECT

BNP PARIBAS STRESS TESTING METHODOLOGIES AND MODELS

May-October 2021/ France

QUANTITATIVE ANALYST INTERN: QUANTIFICATION OF THE EXPOSURE OF BNPP TO THE DIFFERENT CLEARING HOUSES IT BELONGS TO AS WELL AS THE PROBABILITY OF HAVING A CERTAIN PORTION OF ITS DEFAULT FUND CONSUMED

LABORATORY OF MATHEMATICS AND MODELISATION OF EVRY LAMME

2019-Summer / France

RESEARCH INTERNSHIP: ROUGH VOLATILITY, KERNEL ESTIMATION OF VOLTERRA PROCESSES

PEDAGOGICAL PROJECT

- Estimating the Hurst parameter for a fractional brownian motion and study of the lifted heston model in Python
- Combining Neural Network Algorithms and Model Diffusion for CVA Pricing, in partnership with *Natixis*
- Pricing and hedging of a lookback option in the Black & Scholes framework in C++ and VBA
- Study of the SABR model: Calibration and volatility smile and skews in Python
- Handwritten Digit Classifier in Python
- Research project: Option pricing and implied volatility computation using Artificial Neural Networks in Python
- Resolution of Black-Scholes PDE for vanilla option pricing implemented in C++
- Study of breakup model using the Weibull distribution in Python
- Gas sensor array temperature modulation: using supervised learning to select the best sensors for CO measurement in R
- Kaggle competition: New York City taxi trip duration in R

SKILLS

PROGRAMMING LANGUAGES Python | C++ | R | C | Scilab | SQL

ENVIRONMENTS Windows | Unix | MacOS

FRAMEWORKS & LIBRARIES Jupyter | Matplotlib | Numpy | Pandas | Scikit-learn | Tensorflow | Ggplot2 | Tidiverse

LANGUAGES *Native:* French, wolof *Fluent:* English (180+ linguaskill, 108/120 TOEFL) *Beginner:* German

ACHIEVEMENTS

- **Award:** Sophie Germain excellence master scholarship from the Mathematics Foundation Jacques Hadamard (FMJH)
- **Certification:** Machine learning certification on Coursera, credential id CMG7B9Y2DPTN
- **Certification:** Fundamentals of Reinforcement learning certification on Coursera, credential id NHQLALPZ7AKU

HOBBIES

- **Cooking:** Pastries, african meals, **Reading:** Novels, Research articles, **Hair dressing:** Cornrows, braids