



Mame Diarra TOURE

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ABOUT ME

I am currently a PhD student in the Department of Mathematics and Statistics at McGill University, where I was awarded the MILA Women in AI Excellence Scholarship. I graduated Magna Cum Laude from a joint program in Applied Mathematics and Computer Science at ENSIIE and University of Paris-Saclay. I am also a fellow of the Jacques Hadamard Mathematics Foundation, which awarded me the Sophie Germain Excellence Scholarship for my Master's in Quantitative Finance. My research interests focus on Scalable Bayesian Deep Learning for real-world applications where uncertainty quantification is critical

EDUCATION

MCGILL UNIVERSITY, MONTRÉAL, CANADA

Fall 2022- Now

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 - July 2024, Montréal

APPLIED RESEARCH SCIENTIST JR

Focused on NLP and Reinforcement learning projects, improving predictive models and developing innovative solutions for industry applications.

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

MOST RELEVANT PROJECTS

• NLP for Food Delivery Ingredient Prediction

Developed topic modeling techniques using **Count Vectorization** and **Word2Vec** embeddings to predict dish ingredients for a food delivery company. Enhanced model accuracy and efficiency, enabling better menu categorization and operational planning.

• Startup-Investor Matchmaking Algorithm

Designed and implemented a matchmaking algorithm to connect startups with investors using **Collaborative Filtering**. Overcame challenges related to sparse labeled data by leveraging user-item similarity measures, improving recommendation accuracy and stakeholder satisfaction.

• Budget Pacing Optimization for Advertising

Formulated problem statements and developed solutions using **Reinforcement Learning** to optimize budget allocation for an advertising company. Enabled more effective decision-making by aligning data constraints with strategic goals.

SKILLS

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

ENVIRONMENTS Windows | Unix | MacOS

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

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

ACHIEVEMENTS

- **Award:** Women in AI Excellence Fellowship (MILA, Québec), Sophie Germain excellence master scholarship (Mathematics Foundation Jacques Hadamard, FMJH France)
- **Certification:** Machine learning, Fundamentals of Reinforcement learning, Data Analysis and Visualization with Power BI

HOBBIES

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