Baptiste Pepin

6126 S Ellis Avenue #1N, Chicago, IL 60637 | +1 (872) 326-6209 | baptistepepin@uchicago.edu | LinkedIn | GitHub

Education

The University of Chicago — **Chicago, USA**
Master of Science in Financial Mathematics – GPA: 4.0 — **Expected December 2024**

- Courses: Probability & Stochastic Processes, Stochastic Calculus, Portfolio Theory & Risk Management, Option Pricing, Numerical Methods, Quantitative Trading Strategy, Fixed Income & Fixed Income Derivatives, Computing for Finance in Python and C++, Data Science Tool for Finance, Foreign Exchange, Time Series Analysis

École Centrale de Nantes — **Nantes, France**
Master & Bachelor of Engineering: specialization Applied Mathematics — **Expected December 2024**

- Major: Fundamental Mathematics, Numerical Probabilities, Statistics, Data Analysis, Machine Learning and Statistical Learning, Quantification of Uncertainties, Stochastic Processes
- Minor: Leadership & Management, Corporate Social Responsibility, Industrial Marketing, Low-Tech & Innovation

Skills

Computing: Python (Keras, Matplotlib, NumPy, Pandas, Plotly, Scikit-learn, Scipy, Seaborn, Shap, Streamlit), R, SQL, MATLAB, C++, C#, MS Office, LaTeX, Spyder, Github, Visual Studio, SSMS, Teamcity, Octopus, Snowflake
Knowledge: Financial Markets, Statistical Arbitrage, Market Microstructure, Machine Learning, Data Analytics
Trading Products: Futures, Commodities, Fixed Income, Equities, Options, Cryptocurrencies, FX

Experience

Cboe Global Markets — **Chicago, USA**
Quantitative Researcher – Derivatives Strategy Intern — **June 2024 – August 2024**
Internship at Cboe Labs, the exchange's innovation hub, with the Product Innovation team

- Replicated major Spot FX Benchmarks (BFIX, WM/R) to design and build one for the settlement of FX derivatives
- Computed statistics on a newly launched product: Quoted Spread Books, to assess the presence of resting orders from Market Makers; conducted liquidity and spread analysis; manually constructed the order book to evaluate the depth

ABN AMRO – Neuflize OBC — **Paris, France**
Quantitative Developer Intern — **September 2022 – March 2023**
Internship in the Investment Strategy division which mainly manages global portfolio strategies and KPI analysis

- Literature analysis on the use of Machine Learning for forecasting financial crisis periods
- Developed and improved a Tactical Market Indicator using Machine Learning model: determination of inputs and evaluation metrics, hyperparameter tuning, backtesting

Shift Technology — **Paris, France**
Data Scientist Intern — **April 2022 – August 2022**
FinTech company delivering AI-native decision automation and optimization solutions built for global insurance industry

- Migrated historical clients to an optimized data modeling using C#
- Implemented automated processes and fraud scenarios within the solution to detect new types of fraud efficiently

Research

Pairs Trading Strategy Development: FX Forward & Commodity Futures — **January 2024 – March 2024**

- Developed and implemented a pairs trading strategy by integrating economic rationale with quantitative methods, including correlation, volatility, and cointegration analysis, to identify and capitalize on arbitrage opportunities
- Engineered and backtested trading signals over 14 years of data, constructing dynamic spreads for 5 selected pairs, optimizing performance and risk metrics

Reconstruction of Liquid Asset Performance as part of a project created by QRT — **October 2021 – December 2021**

- Implemented ML algorithms namely K-Nearest Neighbors, Stochastic Gradient Descent Classifier, and Lasso Regression to predict trends of liquid assets from illiquid assets performance
- Achieved a score of 0.72, improving Qube Research & Technologies benchmark score by 4%

Additional Information

Languages: French (native speaker), Spanish (basic working knowledge), German (beginner)
Interests: Volunteering work in festivals, saxophone, backpacking and road trips, skydiving, Formula 1