

MERLIN BAUDOIN

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EDUCATION

Stanford University – M.S. in Computational and Mathematical Engineering

Stanford, USA

Mathematical and Computational Finance (MCF) track

September 2026 – June 2028

- Expected coursework: Numerical Linear Algebra, Optimization, Stochastic Processes, Theoretical Statistics, Statistical Learning, Reinforcement Learning for Finance

École Polytechnique – B.S. in Mathematics and Economics

Paris, France

Double Major in Mathematics and Economics, Minor in Computer Science

September 2023 – June 2026

– GPA: 3.92/4.00

- Relevant courses: Measure Theory, Linear Algebra, Multivariable Calculus, Probability & Statistics, Markov Chains, Machine Learning, Econometrics, Object-Oriented Programming in C++, Concurrent Programming

– Exchange Program at the University of California, Berkeley

- * Courses: International Trade, Financial Economics, Mathematical Methods for Optimization

* GPA: 4.00/4.00

PROFESSIONAL EXPERIENCE

Quantitative Investment Strategies (QIS) Summer Intern

June 2025 – August 2025

Natixis CIB

Paris, France

- Researched and back-tested daily-rebalanced cross-asset volatility-target strategies with a 5% annualized volatility target
- Designed new volatility-targeting mechanisms, improving annualized return by 3% vs. the existing methodology over a 20-year back-test
- Built a Python back-testing engine adopted as an internal desk tool for evaluating algorithmic strategies

RESEARCH EXPERIENCE

Bachelor Thesis: Shortlisting Games with Inequality-Averse Players [Slides]

January 2026 – March 2026

Supervised by Prof. Matias Nunez (CREST)

- Worked on a continuous two-phase shortlisting game with inequality-averse players
- Characterized the equilibrium strategies of the players as a function of each player's inequality aversion parameter
- Designed and led a live experiment with 20+ participants to test my theoretical findings and found that fear of retaliation pushed results towards a fair 50–50 split

PROJECTS

Parallelization of agent-based financial model in C++ [Slides]

April 2026 – June 2026

Parallelizing an agent-based financial model in C++

- Implemented and parallelized an agent-based model for market price dynamics based on a first-come-first-served order book
- Batched agents into sub-order books matched independently in parallel, then pooled remaining orders into a common book for final clearing
- Achieved a $1.92\times$ speedup on 4 cores with 500,000 agents

Research Project in Econometrics [Report]

August 2025 – December 2025

Study of the effect of the ban of e-scooter sharing apps on road accidents

- Implemented a Difference-in-Differences approach to estimate the impact of Paris's ban of scooter sharing apps on road accidents
- Found no statistical evidence that banning e-scooters improved road safety in Paris

Machine Learning with Graphs [Slides]

May 2025 – June 2025

Trained a model to solve the Graph burning problem

- Leveraged Graph Neural Network and Imitation Learning to efficiently find minimal solutions to the "Graph Burning Problem"
- Found minimal solutions on 25% of instances (vs. 0.3% for a greedy baseline), providing a fast heuristic for an NP-hard problem.

Design of Chess AI in C++

December 2024 – January 2025

Programming project in C++

- Developed architecture for board and pieces modelling, designed playing strategies, optimized computational costs
- Achieved level corresponding to **top 10%** worldwide ranking on Chess.com

LEADERSHIP

Volunteering Experiences

2021 – 2025

Charities: Benenova and Envoludia

- Completed 100+ hours of volunteering: cooking for the homeless, gardening in refugee shelters, assisting elderly people
- Assisted weekly at a center for people with cerebral paralysis; coordinated an art exhibition at École Polytechnique to raise awareness.

SKILLS & INTERESTS

Languages: French (Native), English (Fluent), Spanish (Intermediate B2), Italian (Beginner)

Technical Skills: Python, C++, C, R

Interests: Chess (self-taught, top 5% worldwide on Chess.com), Poker, Bouldering