

William Caron-Bastarache

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EDUCATION

Université de Montréal <i>B.Sc. in Computer Science (Expected 2027)</i>	Montréal, QC 2024 – Present
• Relevant coursework: Software Engineering, Algorithms & Data Structures, Theory of Computation, Probability & Statistics, Economics	
Cégep Édouard-Montpetit <i>Business Administration with Mathematics</i>	Longueuil, QC 2021 – 2024

École internationale Lucille-Teasdale
High School Diploma

Brossard, QC
2016 – 2021

TECHNICAL SKILLS

Programming: Java, Python, Bash, HTML/CSS
Familiar with: SQL, C, NumPy, Pandas, scikit-learn, JavaScript/TypeScript (React, Next.js)
Tools: Git, GitHub, GitHub Actions, Linux, Power BI, Docker, Maven, IntelliJ, VS Code, LaTeX
Languages: French (native), English (fluent), Spanish (basic)

PROJECTS

Event-Driven Market Probability Engine (In Progress)	2026
• Quantitative research platform using PostgreSQL, Python (NumPy, Pandas), dbt, and Power BI. • Engineering statistical features (returns, rolling volatility, momentum) from historical market data. • Developing a probabilistic classification model to estimate next-day market direction. • Building reproducible SQL transformations and validation tests using dbt. • Designing dashboards to evaluate signal quality and backtest strategy performance.	
MaVille <i>Java, Maven, REST, CLI App</i>	2025

• Developed a municipal management system with persistence, user profiles, notifications, and API integration.
• Implemented resident/contractor features and data persistence (CSV/JSON).
• Added automated testing with JUnit.

Software Testing & CI Quality Gate (GraphHopper) | *Java, JUnit, JaCoCo, PIT, GitHub Actions* 2025
• Designed and implemented targeted unit tests on core utility classes to improve code robustness.
• Measured test coverage before/after using JaCoCo and evaluated fault detection with mutation testing (PIT).
• Built a CI quality gate in GitHub Actions that fails builds on mutation score regression using a persisted baseline.
• Automated CI reporting with persisted baselines to prevent quality regressions across builds.

EXPERIENCE

Lifeguard <i>City of Brossard</i>	2022 – Present Brossard, QC
• Ensured safety and responded to emergencies in high-traffic pools. • Developed teamwork, communication, and crisis management skills.	

Nightshift Receptionist
Hotel Labelle

2024
Montréal, QC

• Managed front-desk operations during night shifts, ensuring safety and service continuity.
• Strengthened organizational and communication skills in a high-responsibility role.

INTERESTS

Artificial Intelligence, Statistics, Finance, Software Development, Open-source software, Fitness