

Nicholas Belev

nicholas.belev@gmail.com — Boston, MA — (617) 893-6652 — [LinkedIn](#) — [Portfolio](#) — [GitHub](#)

Computer Science and Finance senior with experience building production analytics, backend services, and quantitative risk systems for financial institutions. Strong in Python, SQL, APIs, and data-driven problem solving for large-scale investment and risk platforms.

EDUCATION

McGill University , Montreal, QC	Graduation: May 2026
B.Sc. Computer Science & Artificial Intelligence; Minors in Mathematics, Finance	
GPA: 3.95 / 4.00	
IE University , Madrid, Spain	
Exchange Semester in Computer Science & Artificial Intelligence (Winter 2025)	

EXPERIENCE

Santander Bank , <i>Data Analytics Intern (Return Offer)</i>	Boston, MA	Jun 2025 – Aug 2025
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- Led the firm's first **AI audit** by designing adversarial prompt test suites and statistical performance metrics; automated **IBM WatsonX API** testing to evaluate model risk, prompt injection defenses, and PII handling.
- Identified and remediated **critical AI governance gaps** through quantitative analysis of system failure modes.
- Built a **Power BI** dashboard backed by **Oracle SQL and DAX** to forecast audit workload and support resource allocation for a **150+ person** department.
- Refactored Anti-Money Laundering audit tooling by optimizing **TF-IDF vectorization** and fuzzy matching pipelines, achieving a **3x runtime improvement**.

Northfield , <i>Quantitative Analyst & Software Engineer</i>	Boston, MA	May 2024 – Sep 2024
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- Developed portfolio construction and optimization analytics in **Python** using internal APIs, supporting long/short equity strategies and capital allocation for a **\$65B AUM** wealth manager.
- Built **production-grade Python and SQL pipelines** for factor attribution, volatility monitoring, and investment performance alerts.
- Migrated **16,000+** legacy factor model data files into **PostgreSQL** and designed a **Docker-deployed FastAPI backend** enabling **sub-10 ms** queries for investment risk models.

McGill University Sailing Team , <i>Director of Finance</i>	Montreal, QC	Nov 2023 – Nov 2025
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- Managed **\$100K+** in assets; prepared budgets, reconciled financial statements, and supported audits and tax reporting.
- Built expense forecasting models with **96% accuracy** to inform capital planning and improve cost efficiency by **1.5x**.
- Co-led fundraising initiatives increasing team assets by **\$20K** within **one month**.

PROJECTS

Custom ETF Pricing & Portfolio Analytics Tool	Oct 2025 – Dec 2025
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- Built a **Python-based analytics tool** to price custom equity ETFs and evaluate expected returns using **multi-factor asset pricing models**.
- Estimated **alpha, factor betas, and risk-adjusted performance** via rolling-window regressions on historical equity data.
- Performed **market risk decomposition** to separate global and local risk drivers for portfolio construction decisions.

AI Agent for Othello (on GitHub)	Oct 2024 – Dec 2024
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- Implemented a competitive Othello-playing AI using **alpha-beta pruning**, iterative deepening minimax, and **Zo-bridist hashing**.
- Designed a custom state evaluation heuristic incorporating **stability, mobility, and control** under strict time and memory constraints.
- Achieved a **100% win rate** versus greedy agents, **99%** versus stochastic agents, and **80%** versus top peer minimax implementations.

TECHNICAL SKILLS

Programming: Python, Java, C/C++, OCaml, Solidity
Data & Machine Learning: SQL (PostgreSQL, Oracle, MS SQL Server), R, Pandas, NumPy, scikit-learn
Backend & Systems: FastAPI, REST APIs, Docker, Linux/Unix, Bash
Cloud & Tools: AWS (EC2), Git, Power BI, Excel (VBA), LaTeX