Nicholas Belev

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CS & Finance McGill senior (*3.94 GPA*) with 2 Developer and Quant Analyst internships, building production-ready software & API systems; seeking full-time roles in software engineering, data science, and finance.

Education

Bachelor of Science in Computer Science and AI | **McGill University** | *Montreal, QC* (Aug 2022 – May 2026)
➢ **Business Minor in Finance** ▪ CGPA: 3.94

Key Courses: ▪ Data Structures & Algorithms ▪ AI / ML ▪ Data Science ▪ Statistics ▪ Software Design ▪ Robotics ▪ NLP ▪ Computer Vision ▪ OS ▪ Finance ▪ Blockchain & Cryptocurrency ▪ Financial Accounting

➢ **Exchange Semester in CS & AI** | **IE University** | *Madrid, Spain* (Jan 2025 – Jun 2025)

Certifications and Awards:
- Cybersecurity Foundations, *Google Cloud*
- Stock Market and Investment Research, *Bentley University*
- Xerox Award for IT Innovation, *University of Rochester*
- Data Visualization in JavaScript, *UMass Amherst*
- AI Fluency, *Adava University*

Technical Expertise

Programming – Python (pandas, NumPy), Java, C / C++, JavaScript, OCaml, Assembly
Data & Analytics – Power BI, Jupyter / Colab, R
Databases / SQL – PostgreSQL, Microsoft SQL Server, SQLite
Cloud / DevOps – AWS EC2, Docker, FastAPI, Git, Linux / Unix
Productivity – Excel (advanced formulas, VBA), PowerPoint, Word

Professional Experience

Production Software Developer Intern | **Northfield Information Services** | *Boston, MA* (May 2024 – Sep 2024)
· Automated pipeline for migration of **16,000** legacy risk-model files into PostgreSQL with Python, delivers query data in **< 100 ms**.
· Benchmarked distributed database systems (SQLite, PostgreSQL, and MS SQL Server) on **1 TB** of risk data; SQLite delivered **1.5x faster**.
· Developed and **Docker**-deployed a **FastAPI** service with PyODBC, facilitating secure, low-latency client access to risk data (**< 220 ms**), with metrics-driven monitoring.

Quant Analyst - Developer Intern | **Northfield Information Services** | *Boston, MA* (May 2023 – Sep 2023)
· Implemented **portfolio optimization algorithm** using Python and Northfield's Optimizer API, optimizing for risk-return trade-off and respecting individual preferences across aggregated "Household" portfolios.
· Developed data modeling and analytics pipelines in Python and SQL to extract **time-series** and **cross-sectional risk** factors, enabling data-driven **volatility** analysis. Monitored volatility metrics; identified risk exposures, facilitating quantitative risk alerts for client portfolios.
· Designed and implemented data structure in **credit rating estimation** solution, enhancing reliability of risk analysis.

Treasurer | **McGill University Sailing Team** | *Montreal, QC* (Nov 2023 – Present)
· Manage **$100K** in assets, prepare annual budget, report financial status to McGill Athletics for audits and tax filings; oversee balance sheet, cash flows, event-expense tracking; conduct **performance-to-cost analysis**, revealing **17x** higher point efficiency at low-cost regattas.
· Forecast expenses with **96% accuracy** by applying statistical methods, enabling long-term cost planning aligned with sustainability goals.
· Co-led fundraising initiatives; increased team assets by **$20K** in **1 year**.

Highlighted Projects

Stock Evaluation Utility | Dec 2022 – Apr 2023
· Developed a Python application to evaluate potential stock over- or under- valuation and forecast future performance.
· Parsed financial statements and stock data from Yahoo Finance using **Pandas**, **Requests**, and **Selenium** Libraries.
· Calculated fundamental analysis ratios and derived a **multivariable regression** with autoregressive terms to capture momentum and reversals in stock behavior.

Gaze Tracking Software & Gaze Pattern Analysis (on GitHub) | Jan 2024 – May 2024
· Developed a real-time computer vision system with **OpenCV** and **MediaPipe** to analyze visual focus on magazine covers.
· Mapped gaze-tracking data using **perspective transforms**; generated heatmaps and **trajectory plots** to visualize user attention patterns.
· Informs data-driven magazine cover optimization (e.g. color scheme) through identified links between design choices and gaze behavior.

AI Player for Othello (on GitHub) | Oct 2024 – Dec 2024
· Designed an Othello game-playing AI, combining **Alpha-Beta pruning**, iterative deepening **Minimax**, and Zobrist hash state caching.
· Developed a game-state evaluation heuristic assessing stability, mobility, and position metrics, leveraging move-order techniques to calculate an optimal move **under 2-second time** and 500 MB memory constraints.
· Achieves **100% win rate** vs. Greedy agents; **99% win rate** vs. Stochastic agents; **80% win-rate** vs. top peers' Minimax agents.