

Cesar Augusto Vargas Santini

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Professional Experience

City AI (small startup) — *A.I. Software Engineer* **Toronto, May 2025 – Present**

- Design and implement an **autonomous research system** that crawls the web to identify emerging problems, inefficiencies, and business opportunities.

Tech Stack / Tools: Python, Flask, Bootstrap, Llama 3.1, Replicate API, Gunicorn, Render

Andrew Peller, The Wine Shop — *Sales Representative & Software Developer* **Toronto, Jun 2022 – Jan 2023**

- Developed a **barcode-based inventory management system** in C++ and Qt to improve operational efficiency and reduce manual tracking.

Tech Stack: C++, Qt Framework, SQL

Education

University of Toronto — *Bachelor of Applied Science in Computer Engineering* **Oct 2025**

Projects

Equity Factor Analytics Engine *Python, Pandas, NumPy*

Built a financial analytics engine that retrieves equity market data and computes key quantitative factors including momentum, volatility, moving averages, and volume-based indicators. Implemented a simple long/short strategy and performed historical backtesting with Sharpe ratio and drawdown analysis. Demonstrates strong analytical reasoning and interest in investment technology.

AI Portfolio Assistant (LLM) *Flask, Bootstrap, Llama 3.1, Replicate API*

Developed an interactive assistant that answers questions using contextual data and retrieval-augmented generation. Designed vector retrieval and prompt-engineering logic and deployed using Gunicorn on Render. 🌐 Live Demo — 🐙 GitHub

Multi-User Chat Server with Berkeley Sockets *C/C++, MySQL*

Created a multi-threaded high-performance chat server supporting concurrent clients and multiple chat rooms. Implemented authentication, message routing, and persistent MySQL-backed storage. 🐙 GitHub

Cloudant REST API (To-Do List App) *Flask, Bootstrap, Cloudant NoSQL*

Built and deployed a RESTful CRUD application using Jinja2 templates, Cloudant NoSQL, and Flask. 🌐 Live Demo — 🐙 GitHub

Power BI Transportation Sales Dashboard *Power BI*

Developed a business intelligence dashboard showing KPIs, revenue trends, and performance metrics. 🐙 GitHub

Barcode Inventory Management System *C++, Qt Framework*

Created a desktop application with barcode scanning and SQL integration to automate store logistics. 🐙 GitHub

Technical Skills

Languages: Python, C/C++, SQL, MATLAB

AI & Data Tools: Scikit-learn, NumPy, Pandas, Power BI, PyTorch, TensorFlow

Web & Cloud: Flask, Bootstrap, Jinja2, Render, Gunicorn, Cloudant

Systems: Linux, Unix, Windows, Raspberry Pi

Core Competencies: Data Analysis, Software Development, Backend Systems, Distributed Systems Basics

Finance & Economics Learning

- *The Portable MBA in Finance and Accounting* — corporate finance and financial statements.
- *Investments* by Zvi Bodie — risk/return, portfolios, equity markets.
- *Microeconomics* by Krugman — market incentives, decision frameworks.
- *Machine Learning & Data Science Blueprints for Finance* — applied ML for financial systems.

Summary of Qualifications

- Strong programming foundation in Python and C/C++, with experience in multi-threaded systems and backend.
- Analytical thinker with experience building quantitative tools (factor analytics engine, data pipelines, LLM reasoning engines).
- Passionate about investment management and quantitative research; actively studying finance, markets, and financial ML.
- Fast learner comfortable adopting new languages and tools (Q/Kdb+, Java, Spark, R).