

AKISHAI SABARATNASARMA

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Education

University of Waterloo

Bachelor of Engineering (B.Eng), Software Engineering | **3.92/4.0 GPA**

Waterloo, ON

- **Founder** of Nodaro, **Project Lead** @ UW Blueprint, UW Quant Club, **Firmware Eng** @ UWFE, **Board** @ Career Chats
- **Coursework:** Data Structures & Algorithms, Linear Algebra, Multivariable Calculus, OOP, Statistics, Discrete Math
- President's Scholarship of Distinction (\$5,000), Software Engineering Scholarship (\$4,000), and external scholarships of \$15,000+

Experience

Software Engineer Intern

Apr. 2026 – Aug. 2026

Quantified Health

Toronto, ON

- Fine-tuned a **Gemini LLM** agent in **Python** to extract RX dosing, compute supply windows, and auto-dispense refills, building the evaluation framework that took it to **90%+** accuracy across a **1,000+** case dataset
- Built an end-to-end pharmacy fulfillment platform with a **TypeScript/GraphQL** backend on **GCP** Cloud Functions and Cloud Tasks, with asynchronous status sync and automated rerouting, cutting manual coordination **60%**
- Migrated **4,000+** patient records into **PostgreSQL** with zero downtime via a Python **ETL** pipeline with automated validation

Software Engineer Intern

Feb. 2025 – Jun. 2025

Nvestiv

Toronto, ON

- Improved investor-targeting accuracy **30%** across **20,000+** profiles with a **Weaviate** vector DB and **MCP**-based **RAG** retrieval
- Boosted AI agent throughput **25%** by optimizing numerical pipelines in **Elixir** and integrating real-time market APIs
- Cut end-to-end request latency **40%** on a real-time investment analytics platform by profiling **Next.js** + **Elixir** hot paths

Software Engineer Intern

Jun. 2025 – Aug. 2025

North P&D

Toronto, ON

- Built a **Laravel/PHP** + **Vue.js** marketplace for **5,000+** users, cutting order-processing time **30%** with automated search
- Deployed a custom Moodle LMS, cutting server response time **40%** by tuning **Linux** infrastructure and database queries

Machine Learning Research Assistant

Feb. 2024 – Mar. 2024

Shoichet Lab, University of Toronto

Toronto, ON

- Built **Scikit-Learn** ML pipelines predicting drug-release behaviour across **20+** hydrogel formulations at **85%+** accuracy
- Engineered and optimized hydrogel formulations, improving drug-loading efficiency **20%** through controlled release studies

Student Insider, Student Product Group

Jun. 2026 – Present

Adobe

San Francisco, CA

- Selected as an **Adobe Student Insider** (**1 of 30** from **8,000+** applicants) to build prototypes, complete special projects, and advise Adobe product and engineering teams, providing technical and product feedback on emerging AI and creative tools

Projects

SignalM | *Python, C++, Scikit-Learn, TypeScript, PostgreSQL, TensorFlow, Redis, FastAPI, HMM, NumPy* **Dec. 2025**

- Forecasted **market regime transitions** across 1/7/30-day horizons on **500+** equities at **86%** accuracy using **HMMs** and **XGBoost**, enabling portfolio rebalancing on user-uploaded proprietary datasets
- Built a **PCA/K-Means/UMAP** feature pipeline, rewriting hot paths in **C++** to cut inference latency **60%** to sub-second

Apollo | *Python, FastAPI, Databricks, Delta Lake, MLflow, PySpark, Next.js, TypeScript, Supabase, Gemini/Claude* **Jun. 2026**

- Built a platform converting **natural-language** strategies into validated trading algorithms, generating **100+** with self-repair loops, structural **lookahead-bias** prevention, and **walk-forward** testing to reject overfit strategies
- Built a **Delta Lakehouse** pipeline ingesting **10M+** point-in-time records with **MLflow**-tracked, reproducible backtests

NutriScan | *Python, Next.js, OpenCV, PyTorch, YOLOv8, Gemini, Weaviate, Flask, Raspberry Pi* **Jul. 2025**

- Built a real-time **computer vision** food recognition system (**OpenCV**, **YOLOv8**) at **92%** accuracy with a Next.js interface
- Built a **RAG** pipeline (**Gemini** + **Weaviate**, **25,000+** embeddings) for accurate, hallucination-free nutritional retrieval

Technical Skills

Languages: Python, SQL, C++, C, TypeScript, JavaScript, Java, Elixir, PHP, HTML, CSS, Verilog

ML & AI: PyTorch, Scikit-Learn, TensorFlow, XGBoost, LLM Fine-Tuning, RAG, Vector Databases, MCP, MLflow, NumPy, Pandas

Systems & Tools: Linux, Git, Docker, GCP, Databricks, PySpark, Delta Lake, Redis, CI/CD, PostgreSQL, MySQL, Claude Code

Web & Frameworks: React.js, Next.js, Node.js, Flask, FastAPI, Laravel, Tailwind, REST APIs, GraphQL, Vue.js

Awards

- **IMC Prosperity Algorithmic Trading Competition** – Finalist, **top 7% of 18,800+** global teams
- **International Champion (1st Place, 2025)** in the DECA Financial Consulting & Investing competition; 2nd Place (2024)
- **Published Computer Science paper on P vs NP** (8% acceptance rate; 15,000+ audience)
- **Published Math paper on the Continuum Hypothesis** (Oxford Math Writing Contest); **\$220,000+** won in scholarships
- **Y Combinator Startup School (2% acceptance)** – selected to a cohort of top technical builders for sessions with YC partners
- **Schulich Leader Scholarship** Recipient (\$120,000)