Arnav Nagzirkar

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EDUCATION

University of Toronto Sep. 2022 – April 2027

Honours Bachelor of Science in Computer Science, Statistics and Economics

Relevant Courses: Data Structures and Algorithms, Software Design, Systems Programming, Computer Organization, Software Engineering, Introduction to Machine Learning, Probability and Statistics I & II, Regression Analysis, Design and Analysis of Experiments, Applied Econometrics I

EXPERIENCE

Software Engineering Intern June 2025 – August 2025

Kavodax *Remote*

- Led a team of 3 interns to build a blockchain-based cross-border payment system, reducing remittance fees to **under 1%** and transfer times to **under 3 minutes.**
- Architected modular systems for user onboarding, multi-currency transfers, and wallet management using **Next.js**, **FastAPI**, **Tailwind CSS**, and the **Stellar** blockchain.
- Integrated external services including **Plaid** for bank linking, **Stripe** for fiat on/off-ramping, and **PayTrie** for stablecoin conversions.
- Implemented secure authentication, KYC workflows, and data handling using OVH Cloud, PostgreSQL on CloudSQL, AWS S3 for file storage, enabling SaaS-style multi-user onboarding and UI support.
- Containerized the backend using Docker and optimized the existing MVP through improved API reliability, test coverage, and developer documentation.

Data Retention Specialist Intern June 2021 – August 2021

Bitts Testing Services *Mississauga, ON*

- Audited and verified exam session data (audio/video files, metadata) across cloud storage systems including **AWS S3** and **PostgreSQL** databases, ensuring data integrity and SaaS-driven compliance.
- Used Python scripting to automate batch file validation, organization, and reporting tasks, **reducing manual workload by 30%.**

PROJECTS

StocksNow | *Python, Flask, NLP (Transformers/VADER), yfinance, Chart.js, Bootstrap* Sep 2025 – Present

- Built a full-stack quant research web app with three modules: **News Sentiment**, **Predictor**, and **Backtest**, obtained via NewsAPI, exposed via Flask JSON APIs and a responsive Bootstrap/Chart.js UI.
- Implemented an **NLP sentiment pipeline** (Hugging Face Transformers + VADER) and a robust market data layer (yfinance normalization, MultiIndex/tz handling) to score headlines and fetch clean OHLCV.
- Engineered TA features (**RSI, Bollinger width, volatility, returns**) to produce a momentum-based up-probability signal and ran a daily backtest reporting **CAGR, Sharpe, and Max Drawdown**, with interactive equity curves (Matplotlib/Plotly) and client/server logging.

Custom Shell | *C, Socket Programming, Signals, Process Management* January 2025 – April 2025

- Developed a fully functional Linux-style shell in C with built-in commands (echo, ls, cd, cat, wc, ps, exit)
- Implemented core OS features: **pipes**, **background processes & job control**, and **signal handling** (kill, ctrl+c suppression)
- Extended shell with **network support**, including server-client messaging and multi-client communication over sockets

JourneyMatch | *React Native, TypeScript, Django, Google Places API, Node.js, Python* Apr 2024 – Present

- Built a cross-platform tinder style swipe app for travel discovery in **React Native + TypeScript**; integrated Google Places to tag photos, enrich destinations, and deep-link to Maps.
- Designed **Django APIs** for user profiles and content, handling **media uploads and real-time updates** to deliver **personalized destination recommendations**.

TECHNICAL SKILLS

Languages: Java, Python, C/C++, SQL (Postgres), JavaScript, HTML/CSS, R, Typescript

Frameworks: React, Node.js, Flask, FastAPI, Next.js, React Native

Tools: Git, Docker, AWS, VS Code, PyCharm, IntelliJ, MongoDB, PostgreSQL, Postman

Cloud Technologies: AWS S3, CloudSQL, OVH Cloud

Libraries: pandas, NumPy, Matplotlib, Plotly, yfinance, Tailwind CSS   **APIs**: Plaid, Stripe, Stellar, PayTrie, OVH Cloud, Google Maps API, News API

Certifications: AWS Certified Cloud Practitioner (View Credential)