Johan Naresh

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Education

University of Waterloo
Computer Science and Finance Double Major, Bachelor of Computing and Financial Management (Honours Co-op)

- GPA: 3.94/4.00 | *Awarded President's Scholarship of Distinction for academic excellence upon admission*

Technical Skills and Interests

Languages: Python, SQL, JavaScript, TypeScript, HTML/CSS, C++, Dart, Java
Frameworks & Libraries: React, Next.js, Pandas, TensorFlow, BeautifulSoup, yfinance
Tools & Platforms: Git, GitHub Actions, PostgreSQL, MongoDB, Firebase, Selenium, Vercel, Power BI, Excel, APIs (Google, LLMs)
Interests and Hobbies: Competitive E-sports, Grilling, Aviation, Astronomy, Cricket, Teaching, Billiards

Experience

Software Engineer Apr 2025 - Present
Marble Investments

- Built async Python pipelines to acquire, filter, and normalize a NASDAQ/NYSE equities dataset, with **rate-limited retries** and **idempotent updates**, standardizing market cap, diluted EPS, and analyst estimates, reducing acquisition time by **80%**.
- Designed MongoDB architecture with **indexed collections** and **upsert-based refreshes** to store and update key financial metrics (P/E, revenue, profit margins), enabling rapid retrieval for research workflows and dashboard integration.
- Developed **Next.js** + **TypeScript** internal dashboard with live data feeds for real-time portfolio analytics & quantitative screening

Lead Web Developer Oct 2024 - Apr 2025
Opportunities HQ

- Developed end-to-end opportunity discovery platform with full-stack architecture using HTML/CSS/JS.
- Implemented dynamic filters and persistent local bookmarks using JSON and **localStorage** for fast program discovery.
- Integrated **SEO analytics** via **Google Search Console** and real-time user tracking with GoatCounter.

Head of Journalism and Staff May 2024 - Aug 2025
Career Compass Coalition

- Grew Google Classroom userbase from **1,000** to **17,500**+ students, alongside **24,000**+ social media followers.
- Managed editorial pipeline for **14** student writers, leading survey-driven newsletter production.
- Built and deployed the organization's first centralized web resource using modern static architecture.

Projects

Real-Time Gym Rep Counter | *C++, vcpkg, serial I/O, Node.js, WebSockets, Supabase, HTML/CSS/JS*

- Built low-latency rep counting in **C++** using accelerometer and gyroscope streams and defining rep-detection logic (filtering, peak/valley detection, debouncing, timing constraints), with timestamped serial ingestion via vcpkg-managed deps.
- Developed a **full-stack pipeline** where a Node.js backend ingests high-frequency JSON sensor streams, validates and buffers events, and sends updates via **WebSockets** to a responsive HTML/CSS/JS dashboard with real-time state synchronization.
- Connected the dashboard to **Supabase** for live session state (counts, metrics) and added camera-based computer-vision features.

Research Analysis – Sephira Institute | *Python, Pandas, Time-Series Analysis, Statistical Modeling*

- Ran lead–lag and rolling **cross-correlation** analysis on global equity and societal happiness time series with persistence checks.
- Applied **detrending** methods such as log-differences, YoY transforms and residualization to isolate mid/long-term relationships.
- Collaborating with a Cambridge University professor to develop hypotheses, **stress-test** assumptions, and validate methodology.

Personal Portfolio Website | *React, TypeScript, Framer Motion, Tailwind CSS, HTML Canvas*

- Built interactive portfolio using React and TypeScript with **Framer Motion** transitions and motion-based UI components.
- Implemented real-time 2D physics for asteroid motion using kinematic equations (position, velocity, angular rotation, drift), integrating canvas-based rendering with **DOM interactions.**

Finalist – Mobile App Competition | *Dart, C++, CMake, Gemini API*

- Built a **Flutter** Android ESG-scoring app in a team setting with barcode/photo/text inputs; integrated the **Gemini** API to generate product scores and explanations and display them in-app.
- Implemented on-device persistence for user preferences/history so settings and previously scored products remain across sessions.

Contact Scraper Bot | *Python, Selenium, regex, pandas, ChromeDriver, webdriver-manager*

- Extracted and validated lead data from dynamic web pages with Selenium; parsed raw HTML into structured tables for export.
- Automated ChromeDriver setup with webdriver-manager to keep browser and driver versions aligned across machines.