

Aryan Makkar

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EDUCATION

University of Waterloo | Honours Bachelor of Computer Science, *Waterloo, Ontario* 2024–2029
Wilfrid Laurier University | Honours Bachelor of Business Administration, *Waterloo, Ontario* 2024–2029

- **Relevant Coursework:** Object-Oriented Programming, Optimization, Foundations of Sequential Programs

SKILLS

Languages: Python, C++, C, Java, Go, JavaScript, TypeScript, SQL, HTML/CSS

Libraries/Frameworks: Next.js, React, FastAPI, Pandas, NumPy, scikit-learn, SQLAlchemy, Plotly

Tools/Technologies: PostgreSQL, Docker, Git, GitHub, Linux, Power BI, Google OAuth 2.0, Supabase, Vercel, Render, Supabase

EXPERIENCE

Sanyacard , *Lead Engineer, Startup* | Planned Release: September 4, 2026 *March 2026 - Present*

- Built SanyaCard's public-facing launch website using Next.js, React, TypeScript, and Tailwind CSS, creating interactive product demos and a Supabase-backed waitlist that attracted 50+ pre-launch sign-ups.
- Integrated the Google OAuth 2.0 API into the authentication flow, exchanging authorization codes for Google profile data and issuing secure JWT-based sessions through HTTP-only cookies.
- Designed and implemented authenticated REST API endpoints for users, portfolios, and portfolio pages, supporting creation, retrieval, updates, and deletion with request validation, authorization checks, and structured HTTP error handling.
- Developed the Go/PostgreSQL backend for persistent portfolio and page management, implementing CRUD operations, ownership-scoped SQL queries, unique page slugs, page ordering, and persisted editor layouts.
- Connected the Next.js frontend to backend APIs through reusable TypeScript hooks and API utilities, synchronizing portfolio and page state across create, update, and delete operations while handling failed requests, expired sessions, and partial saves.

Government of Ontario, *Process Analyst, Internship* | Guelph, Ontario *January 2026 - May 2026*

- Developed automation scripts using Python and TypeScript to streamline CMDB data updates, validation, and cleaning processes, reducing manual effort and improving the accuracy of enterprise asset records.
- Created a detailed Standard Operating Procedure (SOP) outlining automation failure handling, troubleshooting steps, and escalation processes for CMDB update workflows, improving operational consistency and knowledge transfer for team members.
- Designed and implemented workflow automations using Microsoft Power Automate to streamline request management and approval processes, improving operational efficiency and reducing turnaround time for CMDB-related tasks.

RSG LAW, *Financial Analyst, Internship* | Mississauga, Ontario *April 2025 – August 2025*

- Transformed raw financial data from spreadsheets into clean, structured data, using Python and Pandas to automate data cleaning and validation processes, resulting in reduced manual preparation time.
- Created dynamic dashboards using Power BI, by connecting to Excel and applying data transformations within Power Query and DAX, resulting in clear visual insights for faster decision making.
- Created an investor slide deck and financial projections for a \$300+ million housing development, by modeling revenues, costs, and several ROI scenarios, increasing investor confidence.

PROJECTS

Anomaly Detection  | *Toronto, Ontario* *March 2026*

- Built a transaction anomaly detection system using Python, scikit-learn, FastAPI, PostgreSQL, and Docker, using pdfplumber to extract transaction data from bank statement PDFs before preprocessing, model inference, and dashboard visualization.
- Evaluated Isolation Forest, Logistic Regression, and Random Forest on a held-out test set using precision, recall, F1-score, and confusion matrices; selected Random Forest after achieving 0.91 anomaly F1, 0.94 precision, and 0.88 recall.
- Engineered transaction features with Pandas, including amount, transaction direction, merchant history, and date-based spending patterns, which were used by the model to identify anomalous transactions.
- Developed a FastAPI REST API backed by PostgreSQL to process uploaded transactions and serve anomaly predictions and analytics; built interactive Plotly visualizations for cash flow, merchant spending, transaction patterns, and flagged anomalies.

Stride  | *Toronto, Ontario* *July 2026*

- Developed an NLP-based training assistant using the Google Gemini API to interpret free-form user requests such as scheduling restrictions, and exercise preferences, converting natural language into validated constraints for personalized workout plans.
- Designed a deterministic scheduling and adaptive-planning engine that generates running, strength, and hybrid programs while accounting for recovery, workout intensity, user availability, long runs, and conflicting training constraints.
- Integrated Google OAuth and REST APIs through FastAPI with JWT authentication, rotating refresh tokens, and PostgreSQL persistence, supporting personalized accounts, workout logging, plan adjustments, and training analytics.
- Built a React and Recharts frontend for visualizing running progress, strength volume, adherence, and planned-vs.-actual performance; deployed the full-stack application using Vercel, Render, and Supabase.