VISHAAL GOPALAN

U.S/Canadian Citizen

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Education

University of Toronto Sep. 2024 – May 2028
Bachelor of Applied Science in Computer Engineering + PEY CO-op *Toronto, ON*
Relevant Coursework: Software Design/Systems Programming (C++), Object Oriented Programming (Java), Data Structures (Python), Computer Architecture and FPGA Systems (Verilog)

Experience

UofT Engineering Student Consulting Association Jan 2025 – Present
Executive Software Engineer *Toronto, ON*
- Built a full-stack event and application management system that replaced manual file-based workflows and supported **1,000+** executive and student users.
- Developed secure, scalable APIs using **Python**, **FastAPI**, and **PostgreSQL** (Supabase) with role-based access control for authentication, applications, and event management.
- Integrated external services including **Google Photos API** for event photo hosting, **Google Drive API** for application file access, and **Supabase Email/Gmail API** for automated notifications.
- Designed a responsive user profile and authentication settings page using **React** and **Shadcn UI**, integrating secure **REST APIs** to support updates across **5** core profile fields and secure password changes.

Solaris May 2025 – Aug 2025
Software Engineer Intern *Toronto, ON*
- Developed a GTA-wide healthcare facilities backend using **Python** and **RESTful APIs**, modeling **100+** hospitals, urgent care centers, and clinics across **12** municipalities and **5** health regions.
- Designed geospatial and relational data models in preparation for **PostgreSQL** and analytics workloads, including region tagging and coordinate indexing.
- Aggregated and normalized multiple public healthcare datasets into a clean API used by the frontend for real-time visualization.

Projects

N3XUS | *FastAPI, Next,js, Gemini API, PostgreSQL, Drizzle ORM* Jan 2026
- Built an AI-powered academic dashboard using **FastAPI**, **Python**, and **Gemini 2.0 Flash API** that scans unstructured course syllabi and generates a study plan for the semester.
- Integrated **Gemini 2.0 Flash** to analyze submitted engineering assignments and automatically detect student errors, while generating image-based practice questions that increased targeted practice coverage by **4%** per topic.
- Implemented **Drizzle ORM** with **PostgreSQL** for structured data mapping across **10+** entities, and integrated **Supabase SSR** storage to securely manage **100+** assignment uploads.

Moodify | *Python, Spotify API, FastAPI, PyTorch, JavaScript* Nov 2025
- Engineered an AI - powered music recommender using **Python** and **FastAPI** to generate personalized Spotify songs based on user's mood.
- Implemented an emotion classification pipeline using a fine - tuned **Hugging Face Transformers** model, achieving a **93%** accuracy rate on real-time text analysis.
- Optimized API performance by developing a multi-tiered request strategy for the **Spotify API**, increasing song generation success to over **99%**.

ToneShift | *Python, ChatGPT API, Google Cloud Platform* Apr 2025
- Data scraped **500** global news articles to form a comprehensive dataset.
- Utilized **ChatGPT API** to rewrite the articles in various tones of voice by implementing **Python** scripts to automate the process.
- Leveraged **Google Cloud Platform** to train collected dataset and fine - tuned model using **OpenAI** to automate the generation of content with any tone of voice.

Technical Skills

Languages: Python, JavaScript, HTML, CSS, SQL, Java, C++, C, Swift, MATLAB
Developer Tools: VS Code, Git, Eclipse, Google Cloud Platform, Figma, Altium
Technologies/Frameworks: React, FastAPI, PostgreSQL, Supabase, DynamoDB, PyTorch