Varrahan Uthayan

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EDUCATION

Carleton University   **Sept 2021 – May 2026**

Bachelors of Engineering, Computer Systems Engineering – GPA: 4.0   *Ottawa, Ontario*

- **Scholarships & Awards**: Deans List, Carleton Academic Scholarship, Golden Key Honour Society Award
- **Relevant Courses**: Data Structures and Algorithms, Operating Systems, Real-Time Systems, Computer Architecture, Network Security, Computer Communications, Object-Oriented Programming, Linear Algebra

EXPERIENCE

Software Developer Intern   **May 2025 – August 2025**

Markitech   *Toronto, Ontario*

- Implemented a Retrieval-Augmented Generation (RAG) model using Python, LangChain, and OpenAI APIs to assist therapists and pediatricians in identifying potential mental health concerns
- Developed a full-stack web application with React.js, Node.js, Express, and MongoDB for Deloitte and Telus Health, enabling provider call tracking and appointment scheduling.
- Redesigned the Cliniscripts SaaS product UI in an Agile/Scrum environment, improving customer subscription retention by 15%

Full-stack Software Developer Intern   **May 2024 – December 2024**

Ingram Micro   *Toronto, Ontario*

- Designed and deployed REST API microservices with Python, FastAPI, and Docker to automate Azure App Insights metric reporting into Confluence, reducing manual reporting time
- Built a Vue.js + Python full-stack portal integrated with PostgreSQL to centralize Atlassian tools, lowering license costs by 20% across the organization
- Created and automated 8+ ServiceNow workflows using JavaScript for compliance and service processes, streamlining ITSM operations

Embedded Software Engineering Intern   **January 2024 – April 2024**

Best Theratronics   *Ottawa, Ontario*

- Trained and deployed a TensorFlow CNN model (98% precision) on a Raspberry Pi 4 for real-time MRI brain tumor classification in Gamma therapy
- Programmed multicore C++ applications for Arm Cortex-M0 microcontrollers to log particle accelerator metrics, implementing a safety shutdown routine to protect hardware
- Built a computer vision defect detection system with OpenCV (93% accuracy) for irradiator fault monitoring

Data Engineering Intern   **May 2023 – August 2023**

RoundAssist   *Toronto, Ontario*

- Designed ETL pipelines in Python to extract, transform, and load data from SQL databases into Tableau, reducing manual entry by 60%
- Built 5+ interactive dashboards using Tableau and SQL, improving client reporting, analytics, and reducing data fragmentation

PROJECTS

Kubernetes Postgres Cluster Operator

- Built a Kubernetes operator in Go (OperatorSDK) to manage multiple PostgreSQL instances with persistent storage, backup/restore, failover, and scaling
- Implemented automated scaling, rolling updates, and recovery processes using container orchestration techniques

Elevator Communication System

- Developed a real-time C++ system using UDP sockets and multithreading to coordinate multi-car elevator operations
- Optimized low-latency communication and fault-tolerant scheduling in a distributed multi-elevator network

SKILLS

Programming Languages: Python, TypeScript, JavaScript, C, C++, Go, HTML, CSS, Bash
Frameworks/Libraries: Node.JS, React.JS, Angular.JS, FastAPI, Pandas, OpenCV, Flask, Tensorflow, Django
Tools: Docker, Git/Github, GCP, AWS, Firebase, Kubernetes, Postman, Rest APIs, PostgreSQL, MongoDB