

Yash Aanand

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EDUCATION

University of Waterloo Apr. 2029
Bachelor's in Computer Science (Honours) Waterloo, ON

Selected Coursework: Object-Oriented Software Development, Designing Functional Programs (Advanced),
Algorithm Design & Data Abstraction (Advanced), Linear Algebra, Tools and Techniques for Software Development

WORK EXPERIENCE

Software Engineering Intern Jan. 2026 – Apr. 2026
IrisGo (Irixion Corp) Mountain View, CA

- Shipped **task-automation** client features via **Electron**, **TypeScript**, and native **C++** over **OS-level IPC**
- Reduced **task execution failures** by **35%** using a local **Python** agent with **MCP** and **WebSockets**
- **Reduced task runtime by 80%** via distributed caching and batched tool calls in **Go**, **Redis**, and **Docker**

Software Developer Intern May 2025 – Aug. 2025
Micromatic Grinding Technologies Bangalore, IN

- **Reduced licensing costs by 85%** by replacing legacy CNC interface with a custom **Windows** interface
- Achieved **under 10ms latency** via **Python** threads and **C++ FOCAS API** for real-time CNC data
- **Scaled UI to 40+ production screens** using **React** to simulate end-to-end workflows across machines
- Delivered **full-stack** system with **FastAPI** and **GitHub Actions CI/CD** to replace **FANUC** controllers

Software Engineering Intern Aug. 2023 – Sep. 2023
Parkquility Bangalore, IN

- **Shipped** full-stack features with **React**, **Java**, **Flask**, and **MongoDB** to accelerate client deliverables
- Reduced **server resource usage** by **25%** by profiling and refactoring **Express.js** and **Java** service endpoints
- **Containerized** services with **Docker**, migrated legacy JS to **TypeScript**, and deployed via **GitHub Actions**

SELECTED PROJECTS

CacheForge | *C++20, POSIX Sockets, epoll, CMake, Linux* 📄

- Built a **cache server** with **epoll** multiplexing, **8-thread** worker pool, and **16-shard** concurrent storage
- Implemented **lazy + active TTL**, **LRU eviction**, and **AOF persistence** with **crash recovery** on startup
- Achieved **41K ops/sec** with **p99 < 500µs** and **2.7x throughput** scaling from 1 to 4 threads with **0 errors**

VisuaReader | *Python, Mediapipe, OpenCV, React, FastAPI, Electron* 📄

- Used **OpenCV** and **Mediapipe** to enable **hands-free** reading via **blink detection** for motor-impaired users
- Leveraged facial landmark **ML models** to track over **468 facial** and **40+ eye** region points
- Achieved **sub-1s responses** and **94% accuracy** via **EAR-based** detection using **Mediapipe** and **OpenCV**

Taxbot | *Next.js, TanStack, OpenAI Functions, Vercel AI SDK* 📄

- Built a tax-agent app using OpenAI Functions to handle **25+ dialogue flows** for scenario-based queries
- **Prompt-engineered** an OpenAI **LLM** with **1,000+** prompts via **Vercel SDK** and **Next.js** Edge Functions
- Configured **30+ financial outputs** for personalized simulations and structured tax summary generation

ClusterHex | *JavaScript, jQuery, MongoDB, Express.js, AWS, Heroku* 📄

- Developed a full-stack location review app with secure login, session handling, and user-level **access control**
- Enabled **real-time** map updates using **Mapbox APIs** and **AJAX-based geocoded** event polling
- Deployed on **Heroku** with **MongoDB** hosted on **AWS EC2**, supporting **100+ concurrent user** sessions

TECHNICAL SKILLS

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

Frameworks: React, Node.js, Next.js, Express.js, FastAPI, Flask, Tailwind, .NET

Tools: Git, Docker, Kubernetes, CMake, PostgreSQL, Redis, MongoDB, GitHub Actions, AWS EC2, GCP

Libraries: OpenCV, MediaPipe, TensorFlow, pandas, scikit-learn, Vercel AI SDK