

# Yash Aanand

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## EDUCATION

### University of Waterloo

*Bachelor of Computer Science, Honours Co-op*

Expected Graduation 2029

*Waterloo, ON*

**Selected Coursework:** Designing Functional Programs (Advanced), Algorithm Design & Data Abstraction (Advanced), Algebra (Advanced), Linear Algebra (Advanced), Tools and Techniques for Software Development, Calculus 1 & 2 (Honours)

## EXPERIENCE

### Software Developer Intern

*Micromatic Grinding Technologies*

May 2025 – Aug. 2025

*Bangalore, IN*

- **Reduced licensing costs by 85%** by replacing legacy CNC interface with a custom **Windows** interface
- Achieved **<10ms latency** by combining **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 Engineer Intern

*Parkquility*

Aug. 2023 – Sep. 2023

*Bangalore, IN*

- **Shipped** full-stack features with **React**, **Java**, **Flask**, and **MongoDB** to accelerate client deliverables
- **Reduced production latency 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**

### Head of Technology

*National Public School RNR*

Jul. 2022 – Aug. 2023

*Bangalore, IN*

- **Designed** and launched a **full-stack** MUN platform for **500+ users** with real-time scheduling and updates
- Built a registration dashboard used across 5 departments to track **1,000+ entries** and manage event logistics
- **Automated data flow** between registrants, organizers, and dashboard using **MySQL** and backend scripts

## PROJECTS

### 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
- **Fine-tuned** an OpenAI LLM with **1,000+ prompts** using **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

### 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 **<1s response time** and **94% accuracy** via **EAR-based** detection using **Mediapipe** and **OpenCV**

### HashChain | *JavaScript, Node.js, MySQL, React, SHA256*



- Engineered a custom **blockchain ledger** using **SHA256** to track and verify **50+ product** transactions
- **Hashed** transactions and stored chain state in **MySQL** with block integrity checks on every write
- Integrated **QR-based lookup** to trace product history and validate source authenticity

## TECHNICAL SKILLS

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

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

**Tools:** Git, Docker, GitHub Actions, AWS EC2, GCP, Vercel, Heroku, VS Code, MongoDB

**Libraries:** OpenCV, Mediapipe, TensorFlow, pandas, scikit-learn, Vercel AI SDK, Mongoose, SHA256