Yash Aanand

✉ yaanand@uwaterloo.ca | in LinkedIn | ⌘ GitHub | ⊕ Portfolio

EDUCATION

University of Waterloo — Expected Graduation 2029
Bachelor of Computer Science, Honours Co-op — *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 — 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 **<10ms latency** via real-time CNC machine communication using **Python** and **C++**
- **Scaled UI to 40+ production screens** simulating end-to-end grinding workflows across machine types
- Delivered robust **full-stack** system with **CI/CD pipelines**, eliminating reliance on legacy FANUC controllers

Software Engineer Intern — Aug. 2023 – Sep. 2023
Parkquility — *Bangalore, IN*

- **Shipped** full-stack features with **React**, **Java**, **Flask**, and **MongoDB** to accelerate client deliverables
- **Optimized** Express.js and Java APIs, **reducing production response latency** by **25%**
- **Containerized** services with **Docker**, migrated legacy JS to **TypeScript**, and deployed via **GitHub Actions**

Head of Technology — Jul. 2022 – Aug. 2023
National Public School RNR — *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** on **1,000+ prompt-response pairs** to improve personalized tax assistance
- 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**
- Implemented **dynamic map rendering** with **geocoded** markers and real-time updates via AJAX
- 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** for seamless and responsive document interaction

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