

Ali Husseini

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EDUCATION

University of Waterloo

Candidate for Honours BSc in Mechatronics Engineering | 1B Term | GPA: 3.98/4.00

Waterloo, ON

Sept. 2025 – Apr. 2030

TECHNICAL SKILLS

Languages: C++, Python, Java, JavaScript, TypeScript, Swift, HTML/CSS, XML, SQL

Frameworks: SwiftUI, React, Next.js, Vite, Node.js, Express, FastAPI, Fastify, Celery, Prisma, Playwright, Tailwind CSS, SuiteScript

Tools: Git, Xcode, AWS (Lambda, S3, Transcribe, Bedrock, IAM), PostgreSQL, Docker, Redis, Kubernetes, Neon, Supabase, NetSuite, Railway, AutoCAD, Fusion360, SolidWorks

EXPERIENCE

Software Engineer Co-op

Jan. 2026 – Apr. 2026

ATS360/Netdynamic Inc.

Mississauga, ON

- Architected an **end-to-end AI video screening platform** (SuiteScript, XML, AWS Lambda, S3, Transcribe, Bedrock/Claude, IAM) with a question-group builder and AI analysis reports; client-requested feature **shipped to 30+ enterprise hiring teams**
- Designed and shipped **four interview scheduling flows** (batch, individual, candidate scheduler, direct invite) and a centralized Interview Hub with calendar sync and auto timeslot generation, **cutting ~15 min per interview across 30+ client teams**
- Performed in-depth QA** across multiple features including resume parsing & AI scoring accuracy validated against **100+ resumes spanning varied job postings**; **authored 3 developer handoff guides** enabling clean engineer team onboarding

Firmware Developer

Sept. 2025 – Dec. 2025

University of Waterloo Formula Electric

Waterloo, ON

- Developed and tested **C/C++ firmware** for STM32-based ECUs, implementing **CAN bus message handlers** for real-time communication across motor, battery, and sensor subsystems
- Wrote test harnesses to validate **CAN and UART signal integrity**; identified and resolved **message-priority bugs**, **reducing firmware communication errors by ~20%** during vehicle testing

PROJECTS

Compilot | *Python, FastAPI, Celery, Redis, PostgreSQL, React, Vite, Docker, Kubernetes*

- Architected a **tiered multi-agent pipeline** to track and analyze **competitor companies** across the web (**FastAPI, Celery/Redis, PostgreSQL**), running **3 parallel scraper agents** across **6+ public sources** (GitHub, Lens.org, RSS, job boards, HN) and synthesizing **LLM** conclusions into daily, weekly, and monthly intelligence tiers
- Built a full-stack platform with a **React/Vite** polling dashboard and **DeepSeek-V3.2** via **Vultr Serverless Inference**, converting competitor signals into structured strategic intelligence reports through **multi-stage LLM reasoning chains**
- Deployed to production on **Vultr Kubernetes Engine** with **Docker**, configuring **3 K8s CronJobs** for fully automated report orchestration and an **nginx reverse proxy**, enabling a continuously running competitive monitoring pipeline

Clarus | *TypeScript, Next.js, React, Fastify, Prisma, PostgreSQL, Playwright, Docker*

- Built a 3-service full-stack application (**Next.js, Fastify, PostgreSQL**) with a **Playwright** browser connector that scrapes and synchronizes course data, deadlines, and grade weights from **D2L/Brightspace** into a centralized student dashboard
- Developed an **LLM-powered study intelligence** layer that generates personalized, deadline-ranked daily action plans and supports a **multi-thread AI copilot chat** using structured scraped course content as context for academic guidance
- Secured user sessions by storing **AES-encrypted browser session** state instead of passwords, enabling credential-less authentication across institutions with **SSO and 2FA login flows** while eliminating password exposure

Chefit | *Swift, SwiftUI, Node.js, Express, PostgreSQL, Cloudinary, OpenAI Vision, JWT*

- Built a recipe matching engine (**Swift, SwiftUI, iOS 17+/macOS 14+**) that parallelizes **3 Edamam API** queries via **TaskGroup**, normalizes pantry inputs across 8 ingredient categories, and ranks results by weighted coverage into tiered groups
- Architected a **full-stack social cooking platform** with **Node.js/Express**, a **7-table PostgreSQL** schema (Neon), and **20+ REST API** endpoints for posts, comments, likes, and reviews; secured via **JWT + Keychain, bcrypt-10 hashing**, and three auth providers (email/password, Google OAuth, Apple Sign-In)
- Integrated **OpenAI Vision** for **live pantry scanning** with per-ingredient confidence scoring, **Cloudinary CDN** for image upload, and a 4-provider smart shopping list (Instacart, Kroger, Walmart, Target) across **13 SwiftUI screens**