

# YAZAN MASOUD

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## EDUCATION

### University of Waterloo

Waterloo, ON

Bachelor of Applied Science in Biomedical Engineering, Software Engineering Option

Sept. 2020 – April 2025

- GPA: 3.87/4.00, Dean's Honours List 2022, 2023
- Coursework: Data Structures & Algorithms, Digital Computation, Digital Systems, Systems and Signals

## EXPERIENCE

### Software Engineer Intern

May 2023 – Sept 2023

Bearworks

New York, NY

- Worked alongside founders to launch Bearworks from inception, guiding product development, evaluating technologies, and making technical architecture decisions to begin client onboarding
- Supported 3 pilots by building a web application on **Kubernetes** using **React**, **Next.js**, **FastAPI**, **Postgres**, and **AWS**
- Improved pilot call volume by 35% by developing a **REST API**-driven voicemail drop system using **S3** to auto-generate tailored voicemails with on-the-fly natural AI voice synthesis, enabling faster, targeted outreach
- Enabled 1000+ daily calls to have real-time transcriptions through **WebSockets** with OpenAI's Whisper

### Software Development Engineer Intern

Sept 2022 – Dec 2022

Infinera Corporation

Ottawa, ON

- Eliminated 6 manual steps from the Digital Sub-Carrier Group configuration process by building a **RESTful CLI API** in **C++** to save development time from manual adjustments
- Rectified 2 critical bottlenecks by instrumenting SDK with **GPerfTools** and **pprof** for memory/CPU profiling to meet chip lag and efficiency requirements
- Uncovered and fixed 10+ vulnerabilities by writing a doctest unit test suite for different chip encryption modes
- Streamlined integration of 4 microservices using **Bash** scripts, bridging **Docker** containers with a custom MCU

### Software Developer Intern

Jan 2022 – Apr 2022

Thomson Reuters

Toronto, ON

- Led integration of OpenTelemetry in Legal Tracker to generate and collect visual application request data within a **distributed system**, enhancing performance monitoring and root-cause analysis capabilities
- Achieved 100% test coverage for critical legacy components by developing an automated testing framework in **C#**
- Cut database query response times by up to 30s through **Redis** caching, indexing, and query optimizations

### Software Engineer Intern

May 2021 – Sept 2021

Cox Automotive Inc.

Mississauga, ON

- Enhanced Dealertrack's retail platform performance by refactoring web application using **Angular** to incorporate lazy loading, AOT compilation, and code splitting
- Streamlined Dealertrack's user financing inquiry process by implementing an email automation system using **Node.js** with **Express** and SendGrid, eliminating manual follow-ups

## PROJECTS

### smartARM | Python, C++, Azure AI

[Website Link](#) | Mar 2023 – Present

- Worked with founders to enable an AI-powered prosthetic arm startup to progress from concept to functional prototype by architecting a control system using **Python** to process EMG signals

### Brain Wave Gaming & Speech | Python, OpenAI, SciPy, Multithreading

[GitHub Link](#) | Jan 2023 – Feb 2023

- Built an EEG Brain-Computer Interface to play Flappy Bird and enable verbal communication, using custom circuitry, digital filtering, 8-32Hz brain wave processing on Raspberry Pi, and OpenAI's text completion API

### Naruto Hand Sign Classifier | Python, OpenCV, TensorFlow, Keras

[GitHub Link](#) | Mar 2022 – June 2022

- Led design of computer vision pipeline for real-time hand gesture classification built on VGG16, achieving 93.60% test accuracy by leveraging **OpenCV** to curate dataset, localize/crop hand positions, and make predictions

## SKILLS

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

**Frameworks and Libraries:** React, Angular, .NET, FastAPI, Next.js, Node.js, Express

**Tools:** Git, Agile, AWS, Docker, JIRA, Jenkins, Kubernetes, Redis, Linux, MongoDB, PostgreSQL