

# Yazan Masoud

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## EDUCATION

### University of Waterloo

*Bachelor of Applied Science in Biomedical Engineering*

- GPA: 3.87/4.00, Dean's Honours List 2022, 2023

Waterloo, ON

Sept. 2020 – April 2025

## EXPERIENCE

### Software Engineer Intern

May 2023 – Present

*Bearworks*

New York, NY

- Worked alongside founders to build startup from inception, guiding product development, evaluating different technologies/vendors, and making technical architecture decisions landing in production
- 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 an automatic voicemail drop system using natural AI-synthesized voices, allowing for targeted and individualized outreach
- Enabled thousands of daily calls to have real-time transcriptions by integrating OpenAI's Whisper model

### Software Development Engineer Intern

Sept 2022 – Dec 2022

*Infinera Canada Inc.*

Ottawa, ON

- Eliminated 6 manual steps from the Digital Sub-Carrier Group configuration process by building a 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 by enabling communication between Docker container and custom MCU

### Software Developer Intern

Jan 2022 – Apr 2022

*Thomson Reuters*

Toronto, ON

- Led integration of OpenTelemetry to generate and collect distributed traces, enhancing application 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 platform performance by refactoring web application using Angular to incorporate lazy loading, AOT compilation, and code splitting
- Streamlined user financing inquiry process by implementing an email automation system using Node.js with Express and SendGrid, eliminating manual follow-ups

## PROJECTS

### smartARM | [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 & Conversation | [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 | [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++, Bash, HTML, CSS, JavaScript, MySQL, PostgreSQL, Python, TypeScript

**Frameworks:** Angular, ASP.NET, FastAPI, .NET Core, Next.js, Node.js, React, Three.js

**Tools:** AWS, ChromaDB, Docker, Git, Jenkins, Kubernetes, Linux, Pinecone, Redis

**Libraries:** Ant Design, LangChain, Mantine, Matplotlib, NumPy, OpenAI, OpenCV, pandas, scikit-learn, SciPy