YAZAN MASOUD

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EDUCATION

University of Waterloo <div align="right">Waterloo, ON</div>
Bachelor of Applied Science in Biomedical Engineering, Software Engineering Option <div align="right">*Sept. 2020 – April 2025*</div>
- *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 <div align="right">May 2023 – Sept 2023</div>
Bearworks <div align="right">*New York, NY*</div>
- 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 **WebsSockets** with OpenAI's Whisper

Software Development Engineer Intern <div align="right">Sept 2022 – Dec 2022</div>
Infinera Corporation <div align="right">*Ottawa, ON*</div>
- 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
- Developed a signal processing module in **C++** using adaptive filtering techniques for Infinera's next-gen optical transceivers, resulting in a 20% improvement in data throughput
- 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 <div align="right">Jan 2022 – Apr 2022</div>
Thomson Reuters <div align="right">*Toronto, ON*</div>
- 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 <div align="right">May 2021 – Sept 2021</div>
Cox Automotive Inc. <div align="right">*Mississauga, ON*</div>
- 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