Yazan Masoud

289-230-4946 | ymasoud@uwaterloo.ca | linkedin.com/in/yaxan | github.com/yaxan | yazan.ca

Education

University of Waterloo — Waterloo, ON
Bachelor of Applied Science in Biomedical Engineering — *Sept. 2020 – April 2025*
- Dean's Honours List 2022

Experience

Embedded Software Developer — Mar 2023 – Present
smartARM — *Toronto, ON*
- Designing and developing prosthetic arm controls system and EMG signal processing code in startup environment

Software Development Engineer — Sept 2022 – Dec 2022
Infinera Canada Inc. — *Ottawa, ON*
- Designed and implemented CLI API in C++ to configure Digital Sub-Carrier Groups via CRUD operations
- Instrumented SDK for heap memory and CPU profiling using gperftools; visualized with pprof and KCachegrind
- Wrote C++ unit test suite for encryption bypass/passthrough mode on chip initialization using doctest
- Enabled port forwarding via IP tables to enable Docker container runtime to communicate with custom MCU

Software Developer — Jan 2022 – Apr 2022
Thomson Reuters — *Toronto, ON*
- Led successful integration of OpenTelemetry to generate and collect distributed traces, enhancing application performance monitoring and root-cause analysis capabilities
- Identified and fixed vulnerabilities in .NET Core codebase, achieving full compliance with Veracode standards
- Developed an automated testing framework in C#, increasing test coverage for critical legacy components by 12%
- Optimized application performance by implementing Redis caching, database indexing, and query optimizations with PostgreSQL, resulting in ∼400 ms response time reduction

Software Engineer — May 2021 – Sept 2021
Cox Automotive Inc. — *Mississauga, ON*
- Refactored DealerTrack platform using Angular, incorporating lazy loading, AOT compilation, and code splitting to enhance user experience and platform performance
- Collaborated with QA through JIRA and Git in Agile environment to improve application stability
- Implemented a Node.js, Express, and SendGrid-based email automation system for user financing inquiries

Full Stack Developer — Sept 2019 – Feb 2020
Halton District School Board — *Burlington, ON*
- Developed web application to audit third-party app access of school staff G-Suite accounts
- Leveraged Google's Directory API to build production-ready web app using JavaScript, HTML, CSS, and SQL
- Deployed by the Halton District School Board, monitoring 6246+ staff and replacing the manual report system

Projects

Brain Wave Gaming & SSVEP Communication — Jan 2023 – Feb 2023
- Architected EEG Brain-Computer Interface to play Flappy Bird using brain wave inputs
- Built verbal communication system with steady state visually evoked potentials and OpenAI text completion API
- Designed and constructed analog circuit to amplify/filter brain waves in the 8-32Hz range
- Used Python to process signals on Raspberry Pi, apply digital filters and FFTs, visualize data, and build interfaces

Naruto Hand Sign Classifier — Mar 2022 – June 2022
- Led the design of a computer vision pipeline for hand gesture classification using transfer learning
- Leveraged OpenCV in Python to curate dataset, localize and crop hand positions, and make real-time predictions
- Achieved 93.60% test accuracy and 83.33% live demo accuracy with VGG16

Skills

Languages: Python, C, C++, C#, MS SQL, PostgreSQL, JavaScript, TypeScript, HTML/CSS, MATLAB, Bash
Frameworks: React, Angular, Node.js, Express ASP.NET, .NET Core, Three.js
Tools: Git, Docker, Unity, Jenkins, Linux, Xilinx Evaluation Boards, Zync SoC (Arm-Cortex A53), JIRA
Libraries: pandas, NumPy, Matplotlib, TensorFlow, Keras, PyTorch OpenCV, eRPC/gRPC