

Omar Alashqar

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SKILLS

Languages C/C++, JavaScript, Java, Python, Bash, VHDL, RISC-V
Stack and tools NodeJS, GraphQL, MongoDB, ReactJS, Firebase, Git, Linux

EXPERIENCE

Software Developer | MAJiK Systems Kitchener Sep - Dec 2018

- Improved real-time update latency and codebase complexity by integrating GraphQL subscriptions on the server
- Implemented a recursive task list system using a tree data structure and data streams
- Optimized software product install and upgrade times by automating most of the deployment process
- Tested alternative deployment strategies with CosmosDB on the Azure cloud platform

Web Developer | Rich Media Toronto Jan - April 2018

- Built web apps and modular components for data visualizations using ReactJS
- Pioneered research and development for a Google Home project involving natural language processing
- Improved workplace productivity and client interaction by introducing a project tracking system

Lead Programmer | FIRST Robotics Team 6378 Mississauga Oct 2016 - Jan 2017

- Programmed robot using the FRC WPI Robotics Library in Java for automated functionality and driver control
- Implemented controllers to manipulate PWM based subsystems utilizing PID with relays and encoders
- Developed autonomous robot routines for driverless functionality with error correction algorithms

PROJECTS

Lazorboi | Laser display embedded system written in C

- Developed a custom CLI for controlling an embedded system that visualizes input through dynamic laser displays
- Implemented interaction between the Onion Omega2 board and motors with GPIO via a motor controller chip
- Cross-compiled programs on a UNIX system with mips architecture and loaded them onto the board over SSH

Spotirave | Audio visualization web app for your Spotify playlists

- Implemented OAuth login system to authenticate with the Spotify Web API to access user playlists
- Processed audio data with Fast Fourier Transforms to achieve music visualizations

Stiki | Web app for storing your notes in a real-time database

No Chill | Crossy road game clone using Java and endless random generation

ACTIVITIES

Software & Electrical sub-teams member | UW Robotics Team Waterloo Sep 2018 - present

- Implemented inverse kinematics functionality for controlling a robotic arm using the ROS framework

Co-Founder & Tutor | High school Code Club Mississauga Oct 2016 - Jun 2017

- Introduced students to coding in Python and trained experienced programmers in Java with coding challenges
- Participated in the 2017 ECCO programming contest as a team and the 2017 CCC University of Waterloo contest

EDUCATION

Candidate for BAsC in Honours Computer Engineering | University of Waterloo 2017 - 2022

- Developed state machines, discrete time physics simulations, and other C/C++ programs
- Designed and implemented digital circuits for FPGA hardware with VHDL and Quartus