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, FPGA
Concepts Trees, graphs, state machines, numerical methods, simulations, optimization

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 and scheduling 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

Spotirave | Audio visualization web app for your Spotify playlists

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

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

EDUCATION

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

Coursework

- Algorithm analysis and design with efficient data structures such as graphs and trees
- Parallelism and pipelining in digital computers, memory management, and CPU design
- Discrete time physics simulations and other approximation methods for modelling systems

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