Omar **Alashqar**

1B COMPUTER ENGINEERING · UNIVERSITY OF WATERLOO

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Skills

Languages
Experienced in Java, C++, JavaScript, HTML, CSS, SASS, Latex
Familiar with Python, PHP, Bash

Frameworks and DBs
NodeJS, Angular4, jQuery, jekyll, MySQL, MongoDB

Tools
Git, Atom, Eclipse, Android Studio, VirtualBox, Adobe Illustrator

Additional Experience

Co-Founder & Tutor │ High school Code Club
Mississauga   Oct 2016 - Jun 2017
- Co-Founded and tutored my high school's first Computer Science club
- 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

Graphic Designer │ Prep Doctors
Mississauga   Aug 2016 - Sept 2017
- Designed marketing and supplementary materials for an dental centre that prepares immigrant doctors for liscencing exams
- Developed better time management and collaboration skills from coordinating with other teams from the company

Education

Candidate for BASc in Honours Computer Engineering │ University of Waterloo
2017 - 2022
- Developed state machines for input processing, discrete time physics simulations, and other C++ programs for a CS course

Projects

Lazorboi │ An input to laser display embedded system
- System that converts various user inputs via a custom CLI written in C/C++ to beautiful moving patterns with a laser, two motors, and mirrors
- Utilized the Onion Omega2 board with GPIO to control the motors with a motor controller chip to modulate the voltage output and change the patterns
- Cross-compiled the programs on a UNIX system with mips artitechure to make compatible with the Omega2
- Implemented an algorithm to convert string input, sinusoidal input, or manual control into motor controls for laser patterns

Stiki │ A realtime web app to store and access your notes from any device
- Responsive and modern UI to create and manage your notes that works across all devices
- Modularized components and managed data binding and templating with Angular4
- Achieved three-way data binding between the DOM, the app, and the database with Google's Firebase storage which relies on JSON trees
- Deployed the node based Angular web app on Firebase hosting

SLSS Announce │ An online announcements system
- Prototyped a web app to host my highschool's daily announcements
- Designed the front-end with vanilla HTML, CSS, and JS with student and admin perspectives for different functionalities
- Developed a PHP backend to send and retrieve data from a MySQL database, where posts and user preferences are saved
- Integrated user authentication for registered accounts with data encryption for safety and customizing preferences

Arduino robots
- Assembled and programmed Arduino embedded systems with sensor and motor components in Arduino flavoured C
- Built an accelerometer chip controlled custom RC car with gradual and stable acceleration
- Created a fully automated maze solving car that stays on track without walls with ultrasonic sensors

Relevant Experience

Web Developer │ Rich Media
Toronto   Jan 2018 - Present

Lead Programmer │ FIRST Robotics Team 6378 - LYNX
Mississauga   Oct 2016 - Jun 2017
- Programmed the robot using the FRC WPI Robotics Library in **Java** with feedback from external sensors and driver control
- Prototyped and implemented various controllers to manipulate PWM based subsystems on the robot
- Debugged and troubleshooted networking issues between the DriverStation software and the robot to optimize performance