ARYAN KALIA

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SKILLS

Summary: Innovative problem solver with experience and interest in embedded systems, ML, and full-stack development.
Software: C++ | Python | Angular | Assembly | HTML/CSS/JS | Typescript | Firebase | Machine Learning | React
Hardware: Arduino | IoT | Soldering | PCB Production | ICs | PIC Controllers | 3D Printing | AutoCAD | Solidworks | GD&T

EDUCATION

University of Waterloo - Mechatronics Engineering, Candidate for BASc. Courses in CAD, C++, Data Structures, Sensors.
Harvard University CS50 - Introduction to Artificial Intelligence Certification on EdX. Course projects: **bit.ly/cs50ai-aryan**

PROJECTS

Sendable: PIPEDA Request Service | February 2020 – June 2020

- Implemented Google Drive API to securely scan client email data remotely
- Employed SDLC to produce a seamless product with a custom, attractive HTML/CSS user interface
- Applied key Angular concepts (Dependency Injection, Observables, Components, Services, strongly typed OOP)
- Integrated Firebase Hosting, Realtime Database, Google OAuth, and custom JS webscraper Cloud Function

Lift Bridge & 4-Way Light Intersection | September 2019 – January 2020

- Led a team as an agile project manager to create aesthetic lift bridge using QTI light sensors, Arduino Uno, and ICs
- Wrote a custom PWM script in Assembly using PIC microcontroller and MPLABX to create a motion-triggered 4-way traffic light intersection with fading LEDs
- Learned about PIC memory storage, Special Function Registers, General Purpose Registers and data representation
- Prototyped and soldered a PCB which was created manually with chemical processes and UV printing

Space Launch News: Hack the Northeast | July 2020

- Designed a custom, aesthetically pleasing UI with Flutter and worked with API data to create live launch countdown

Gesture Controlled Tello Drone: Hack the North | September 2019

- Interfaced an accelerometer with Arduino Uno and Python-based Tello API to command drone with hand tilt motion

DIY Surveillance Camera | September 2020 - Present

- Currently working with IoT hardware (WiFi, Bluetooth modules) and SPI serial communication interfaced with Arduino Uno to transfer camera data stream to a custom designed site hosted on Amazon AWS

EXPERIENCE

University of Waterloo Aerial Robotics Group Developer | October 2020 – Present

- Currently developing Python-based computer vision TensorFlow model which will replace deprecated C++ code that recognizes drone location above ground, assists with landing, and identifies targets on ground

The DigitalQ Project Coordinator | Global Clouds Inc. | June 2020 – Present

- Performed QA testing and managed a development team to produce an appointment booking app for companies affected by COVID restrictions, and led sales by creating marketing materials and initiating critical sales pitches

Engineering Club President | John Fraser SS | September 2016 – June 2020

- Taught 15+ beginner students how to create an RC drone from scratch with Arduino Uno and RF modules
- Managed executive meetings, handled budget, and coordinated with supervisors to enhance member engagement
- Earned bronze medal at Peel Skills Robotics and Control Systems event using NI myDAQ technologies

Instructor/Lifeguard | Erin Meadows Pool | September 2018 – Present

- Gained 600+ hours of experience teaching aquatics to students of all ages/skill levels, including those with disabilities
- Improved customer satisfaction by mentoring junior instructors and encouraging initiative in the workplace

INTERESTS: Astrophotography | Creative Writing | Guitar | Cricket | Aerospace | Running