Abbass Ayoub

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Education

- **Candidate for BASc, Electrical and Computer Engineering**   **Sept. 2015 – May 2019**
  Wayne State University   Detroit, MI
  Awards: Ford's Blue Oval Vehicle Scholarship, WSU Green Scholarship   **GPA:** 3.82
  Coursework: Electronics I, Circuits II, Numerical Methods, Digital Logic

Professional Experience

CenterLine Ltd, Product Development Intern – Windsor, ON   **May 2016 – Aug. 2016**

- Assembled and programmed wireless strain gauges to measure force on resistance welding guns
- Optimized load cell circuits for power consumption, raw data accuracy, and RF range
- Designed PCBs in EagleCAD and soldered components to be implemented in Cold Spray Tech
- Developed a testing system for interpreting voltages across a multiplexed, 96-I/O I^2C platform
- Utilized C++ to validate output voltages of LVDTs

Technical Skills

Hardware:

- Implementation of sensors (PIR, Ultrasonic, IMU), breakout boards, IC's, BLE, RF transmitters and pulse-width modulation in circuits
- Application of programmable microcontrollers (Arduino, Raspberry Pi, PID) for rapid prototyping
- Knowledge of electronic packaging issues (EMC, interference, tolerance stack-up)
- Troubleshooting circuits for noise and discontinuity with standard EE lab instruments

Software and Design:

- Proficient: C/C++, Java, Python, EagleCAD, Multisim
- Familiar: MATLAB, Git, Fusion 360, JavaScript, MS Visual Studio, VHDL

Projects

EMG Amplifier   **Oct. 2017 – Nov. 2017**

- Amplifies micro-voltage input from pre-gelled electrodes to control DC components
- Utilizes an instrumentation amplifier, band-pass filter & full wave rectifier to generate a DC signal proportional to the intensity of the muscular contraction

3-Axis Handheld Camera Gimbal   **July 2017 – Sept. 2017**

- Designed, assembled, and programmed a custom handheld camera gimbal with 3 degrees of freedom
- Built using Autodesk Fusion 360, PID controllers, and brushless gimbal motors

Alexa, Who's At The Door? – Facial Recognition System   **July 2016 – Aug. 2016**

- Created voice-controlled facial recognition system that identifies visitors at your front door
- Developed with Raspberry Pi, Amazon Echo, Javascript, NodeJS and Firebase database
- Top 1% featured projects on Hackster.io with over 16K views – hackster.io/a-ayoub | git.io/door

Alfred – Wireless Home Automation System   **Dec. 2015 – Feb. 2016**

- Interactive device that controls automated objects around your home from an android application
- Created with Arduino, BLE, and Android Studio – https://github.com/a-ayoub/Alfred