

Aftab Narsimhan

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Education

UNIVERSITY OF BRITISH COLUMBIA

Electrical Engineering -
Biomedical Option

Expected: May, 2017

- Dean's List (Year 2)
- Cumulative GPA: 86.2%

Skills

PROGRAMMING

Proficient:

- C# • C • Java

Experienced:

- Android • HTML • CSS

Familiar:

- JavaScript • Assembly

EQUIPMENT

Microcontrollers:

- Atmel • Arduino • Raspberry Pi
- Altera • Smart Servo Motors

Electrical:

- Standard Electrical Equipment
- Surface Mount Soldering

COMPUTER / SOFTWARE

Programming:

- MS Visual Studio • Atmel Studio
- Android Studio • Eclipse

Electrical Design

- Altium • CircuitMaker

Graphic / Web Design:

- Photoshop • Illustrator • WebStorm

Other:

- Git • Perforce • Linux

Clubs and Societies

UBC OPEN ROBOTICS

May, 2014 - Present

UBC BEST

March, 2014 - March, 2015

Technical Experience

KARDIUM INC. | AUTOMATION ENGINEER CO-OP

Sep, 2014 – Sep, 2015 | Burnaby, BC

- Created hardware and software solutions to automate the manufacturing processes involved with building the components of a medical catheter device
- Designed/updated PCBs using Altium, populated them through surface-mount soldering, and tested them using standard electrical tools
- Wrote the drivers for the board using Atmel or Arduino microcontrollers in C
- Created GUI applications that interfaced with the device and many APIs or supporting libraries using C#
- Implemented databases using Microsoft SQL Management Studio and Entity Framework with C# to log data and keep track of calibrations/settings between multiple devices
- Developed several solutions using PID controllers, threading, timers / interrupts, SPI, thermocouples, watchdogs, filters, ADCs, USART communication

Technical Projects

EC TURBO-FAN HELICOPTER | TEAM LEAD, CONTROL SYSTEM LEAD

January, 2016 - Present

- Designing a 2-Degree-of-Freedom (DoF) helicopter with all but the lift and yaw DoF mechanically constrained
- Developing a closed loop feedback system by implementing a PID controller within a microcontroller that interfaces with sensors to accurately control the position of the helicopter
- Writing the firmware for the microcontroller in C++ and creating a GUI test interface in C# to allow for quicker and more efficient calibration, PID tuning and debugging
- Adding Bluetooth capabilities to the device to allow for wireless PID tuning and flashing of new firmware
- Creating an android app with a simulated joystick to allow for easy, wireless control of the helicopter

PATIENT DATA ANDROID APP | VANCOUVER GENERAL HOSPITAL

January, 2016 - Present

- Prototyping a way to modernize a paper-based data transfer process between doctor and patient after intubation procedures, through the use of QR codes, a patient Android app, and a web portal

SMART FALL DETECTOR | NW HACKS HACKATHON

March, 2015

- Prototyped a smart fall detection system to alert hospital personnel in the event of a patient falling through the use of an Android app, a Myo armband, an online database (Firebase) and a central web portal