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 | nwHacks 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