Rowan Ferrabee

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Summary

Hard working and fast learning Mechatronics Engineering student in 2B term with strong interpersonal skills and technical experience in embedded systems, machine learning, and applications development.

Employment Experience

Medical Device Developer, Intellijoint Surgical   **Spring '16 – Fall '16**

• Led development of an image-guided surgical navigation application which helps surgeons visualize exactly where they are in the patient's body in real-time.

• 3D tracking and visualization of surgeon's tools rendered accurately with 3D model of the patient's body.

• Entire application written from scratch using Agile development principles, VTK-based MRI visualization in C++, and developed mechanical components using SolidWorks.

Firmware Developer, BlackBerry Ltd.   **Winter '15 – Spring '15, Fall '15 – Winter '16**

• Made major software design contributions to sensor system of BlackBerry's first AOSP device.

• Contributed thousands of lines of C code to the Linux kernel (bringup, sensors, display) as well as to the dedicated sensor chip.

• Experience with developing hardware-software communication interfaces.

• Created Android applications used for software development (exposing terminal, graphing sensor data…).

Extra-Curricular Involvement

Co-Founder and President, UW BioMechatronics Club   **Spring '15 - Present**

• Led the club from inception to one of Waterloo's largest clubs with over 100 members and 6 design teams.

• Contribute a very significant amount to the design and implementation of projects: lead design of biosignal classification systems, mechanical components, and many other sub-projects.

• Conceived the grip-assistive exoskeletal glove project, contributed to a majority of the software and embedded considerations, designed the mechanical components, and built custom EMG sensor module.

• Host workshops to help members develop skills needed to do work in field of biomechatronics.

Active Involvement in Side-Projects

• Machine Learning library to educate developers on the field of machine learning as it relates to EMG/EEG classification. Designed concept, wrote half of the C++ code, and delivered multiple instructional workshops.

• Web application that allows partygoers to text song requests and have them automatically added to their party's playlist without having to download any apps. Pushed ~2500 lines of front- and backend code.

• Mechanical Calligrapher, which captures and stores its users handwriting in a mobile app and then physically writes out any text file that is sent to it onto paper. Led implementation of all software components.

• Over 3 years of experience developing proof of concept projects with Arduino and Android such as clap-lights, automatic blinds, an ultrasonic room-mapping robot, and various mobile games.

Education

2B Term, Mechatronics Engineering, University of Waterloo   **Fall '14 - Present**

• Dean's List, consistent-90's term averages, and top-5 class rank. Heavy emphasis on project-based work in small groups. Development of complex electromechanical systems.

• Orientation Leader. Involvement in Ultimate Frisbee, Volleyball, and Bubble Soccer Intramurals.