Michael Hosue

2A Mechatronics Engineer

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SKILLS

Languages

C++, C, Java, Python, HTML, CSS, JavaScript, Bash, PLC programming, XML

Tools/Frameworks

MySQL, Firebase, Git, Bootstrap, NodeJS, Cascade CMS, Tomcat

Hardware/Mechanical

Circuit design, Arduino, Photon, Raspberry Pi, MSP 430, AutoCAD, Solidworks

COURSES

Algorithms and Data Structures

Data structures, ADTs, recursive algorithms, algorithm analysis and design, hashing and problem-solving strategies.

Circuits

Circuit design and components, magnetic fields and induction, ICs and wave analysis.

Microprocessors & Digital Logic

PLC programming, sensor technology and computer interfacing.

WORK EXPERIENCE

Security Researcher

BlackBerry - 2015

Planned and identified key steps in compiling Linux kernel fuzzer to run on Android firmware.

Developed strategy to optimize mobile debugging tools.

Analysed and documented Android specific kernel space applications and drivers.

Web Developer

Canada Company - 2015

Design, code and test functionality changes to web site in Java and database (MySQL).

Reduced time taken to authenticate members by 200% by optimizing loading time.

Identified and implemented solutions to patch bugs and security risks.

SIDE PROJECTS

Bright Box

1st place at UofT Hacks

Created smart light switch using "Particle" prototyping board providing users control and ability to set alarms and schedules over HTTP requests via an android application.

Lazy Car

Hack Western

Modified RC car using Arduino to allow users to steer using hand gestures (with the "Leap Motion") and see from a "real life" POV with the Oculus VR headset.

Nerf Guard Turret

Developed control software for NXT nerf turret with automated target lock on using ultrasonic sensors and remote control capabilities via Bluetooth connection.

Pathfinder Robot

Programmed MSP430 micro controller to allow robot to manoeuvre through a maze using touch sensors.

Where Are You

Boston Hacks - "Greatest Impact Hack"

Made web application to help families find missing loved ones using facial recognition APIs, a NODE server and MySQL database.

R.unear.me

McHacks - "Top 10 Hacks"

Web app allows users to see friends on map with real time location updates, and directions. Used Firebase to provide real time updates.