

Michael HoSue

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1B Mechatronics Engineer

Summary of Qualifications

Proficient in C, C++,
Java, HTML, CSS and
Linux

- Program development in C and C++ in side projects, hackathons, coop and school.
- Basic Java and XML experience obtained through android application development for programming competitions.
- Used HTML and CSS in personal webpage development and hackathon projects.

Experienced with
Heavy Machinery and
Power Tools

- Experience with drill press, table saw and band saw in construction weather station.
- Hand held tools such as Dremels, soldering irons and heat guns used in construction of phone qi charger and modifying ps3.

AutoCAD, SolidWorks
& Technical Drawing

- University level graphics course
- Drafting DIY projects such as pull up bar, phone stand and garbage collection tool.

Experience and Projects

Security Researcher at
Blackberry

- Wrote research report on kernel fuzzer including instructions for cross compilation, use and modification.
- Gained experience analysing large code bases and familiarity with kernel space applications and drivers.

Control Software
Development

- 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.
- Built and developed control software for Lego NXT nerf turret with automated target lock on and remote control capabilities.
- Constructed hydrogen fuel cell car and developed software on MSP430 to allow it to manoeuvre through a maze.
- Developed laser alarm system using Arduino microcontrollers.

Web-application
Development

- Created twitter bot to fight cyber bullying by providing people with an online interface to defend others. Won the prize from Indico for best use of the "Sentiment" API at Hack Princeton.
- Developed personal webpage using HTML and CSS and the Bootstrap framework.

Android Application
Development

- Created app for "Digital Jam 3.0 App Competition to display data from e-learning website to be used in primary schools.

Modified and
Enhanced PlayStation3

- Enhanced cooling through implementing vents in body, installation of external USB fans and replacing thermal grease on heat syncs.
- Fixed yellow light of death through heating motherboard to reset CPU and GPU solder (CPU & GPU reflow).

Relevant Courses

- **Algorithms and Data Structures** - Structured software design, data structures, abstract data types, recursive algorithms, algorithm analysis and design, sorting and searching, hashing and problem-solving strategies.
- **Circuits** - Circuit design and components, magnetic fields and Induction, integrated circuits and wave analysis.
- **Materials** - Relationships between macroscopic physical properties of metals, polymers, ceramics, semiconductors, and composite material.