Henry Poon Software/Mechatronics Engineer

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https://www.henrypoon.com

Technical Skills

Software

- Proficient: C++, Java, Python
- Familiar: JavaScript, SQL, HTML/CSS, C#, Matlab
- Technologies: Spring MVC, Grails, Jenkins
- IDE: Visual Studio, IntelliJ
- OS: Windows, Linux, OSX
- VCS: SVN, git

Mechatronics

- Mechanical/electrical design (end-to-end)
- Embedded hardware/software design (e.g. Arduino, I2C, SPI, UART)
- Tools: CNC/manual mill, drill press, waterjet cutter, hand tools
- Software: SolidWorks, HSMXpress, KiCAD

Work Experience

Amazon.com, Inc., Seattle, United States

Software Design Engineer I **September 2015 - Present**

- Developing software for Amazon physical stores on university campuses
- Developing a tool to locate packages within a store in the event of an Internet outage
- Developing software for an in-store kiosk to facilitate customer package pickup and return
- Resolving defects on the existing system to improve the customer experience

Motion Metrics International Corp., Vancouver, Canada

System Design Engineer **May 2013 - August 2015**

- Developed software for mining equipment (e.g. missing tooth detection for loaders and shovels)
- Designed mechanical and electrical systems (e.g. rugged camera brackets, interfacing sensors to microcontrollers, etc.)
- Developed software with features such as mass-flow measurement, volume-flow measurement, conveyor belt alignment, video recording, etc.
- Introduced debugging process that sharply reduced the time needed to fix critical bugs

Robert Bosch GmbH, Stuttgart, Germany

Intern/Praktikant **January 2011 - August 2011**

- Assisted in the design of a soot particle sensor for diesel engines
- Prepared samples using lithography, deposition, and etching for MEMS research
- Conducted experiments to determine material etch rate, resistivity, deposition rate, etc.

Technical Projects

Stock Analysis Tool **January 2014 - Present**

- Develop a web-app using Grails and MySQL for analyzing stock/company data
- Collect and parse financial data from the Internet
- Implement algorithms to evaluate the strength of financial performance between companies

3-Axis CNC Mill [https://cncwiki.henrypoon.com] **September 2013 - Present**

- Design a 3-axis CNC mill from CAD to physical product (work volume ~30x30x15cm^3)
- Estimate cutting forces based on desired material removal rate and design structure to handle cutting forces

Custom Web Server **January 2015 - February 2016**

- Ubuntu server with wikis, cloud storage, WordPress, git, Jenkins, bug tracker, DNS, and VPN
- Wrote automated tests for services on the server to ensure bug-free operation

UBC Robocup/Thunderbots **September 2009 - May 2013**

- Designed and built a team of autonomous robots for an international robot soccer competition
- Designed mechanical systems (e.g. solenoid-based ball kicking system, and ball-dribbling system)
- Led a team of about 10 students that were responsible for all mechanical aspects of the robot

Education

University of British Columbia, Vancouver, Canada

Bachelor of Applied Science, May 2013

- Mechanical engineering, Mechatronics specialization
- Minor in Commerce

Languages

Cantonese: native fluency
German (Standarddeutsch): advanced level
Mandarin: intermediate level
Japanese: beginner level