Brian So

Systems Design Engineering // University of Waterloo

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SKILLS

Languages	Java, C, C++, Python, Bash, Javascript, MatLab, ActionScript 3.0
Tools	Apache Hadoop, HBase, Elasticsearch, Jenkins, Vagrant, Github, Asana
Frameworks	Django, Angular.js, Backbone.js, Underscore.js
Environments	Shell, Ubuntu, Macintosh, Windows, Openstack
Methodologies	Agile, Scrum

EXPERIENCE

Software Engineer – *Ontario Institute for Cancer Research* Toronto, ON // December 2013– April 2014

- Through the use of Apache HBase technologies, I designed and implemented an **Optimized Map Reduce strategy** for searching through **large sets of genomic data** on top of several Hadoop clusters, with a **90% reduction in search time** for a specific set of genomic search queries.
- **Implemented a benchmarking tool suite** to gauge live search performance of patient document structure on the live genomic search web application using Elasticsearch and retrieve **actionable insights**. I presented these **insights** to the engineering team and **suggested improvements** and changes to further performance.
- Worked closely with a small team using an **iterative design approach** to carry out any changes to the code. Continuous integration tools such as Jenkins, Openstack, Vagrant and Github were used daily.

Machine Learning Developer – *Wriber Inc.* Kitchener, ON // June 2013– July 2013

- **Led a small team to design and develop** an auxiliary application to the core processes of the startup service pertaining to linguistic semantics in Python from the ground up.
- Implemented Natural Language Processing tools and basic **machine learning** principles via Python to build an intelligent user friendly **content-based question generator** in half the given time. 80% of question output was accurate and relevant to user's request, which was improved to 90% post-optimization.
- Developed **data-mining** algorithms for gathering bodies of online text from a large range of websites. This text was applied to the question-generator to generate hit-miss data used for **increasing accuracy**.

Software Developer – *Sesame* Kitchener, ON // July 2013– Aug 2013

- Familiarized with back-end processes of the web platform in order to construct a batch upload and edit application of teacher/class enrollment data tables.
- **MVC methodology** implemented using Django, Javascript, and HTML5.
- Utilized UNIX command-line to **setup development environment dependencies**.
- Developed code in a structured and streamlined development workflow. Team members would revise new code and suggest changes before pushing to final application.

PROJECTS & COMPETITIONS

YHack Hackathon (Accepted, Expected attendance) Yale University, Connecticut // Oct 31 – Nov 2, 2014

Similar to Hack the North and BoilerMake, I am expecting to collaborate with a small team amongst many other contenders to create a fully functional app in 36 hours.

BoilerMake Hackathon (Winner) Purdue University, Indiana // Oct 17 – 19, 2014

Created an **award winning** android application by implementing Thalmic lab's Myo gesture recognition armband and Qualcomm's Vuforia Augmented Reality API. We used the Myo to let users control an object created in the virtual world with their arms. Won the **Best use of Vuforia Prize** presented by Qualcomm

Hack the North Hackathon University of Waterloo, ON // Sept 19 – 21, 2014

Chosen out of 3000 applicants to attend and collaborate with a small team amongst many other contenders to design and fully implement and deploy a **step tracker/health application** for the **Pebble Smart watch** in 36 hours.

Weather Data retrieval Application // Sept 15 - Current, 2014

Android app that accepts user specified location data and retrieves weather data accordingly via OpenweatherMap API to display in a user friendly interface.

Toy Gem-store Web Application // August 15 – 20, 2014

Experimental web application leveraging **Angular.js** – allows users to create profiles marketing their gems, either to sell or to buy them.

Home Alarm System University of Waterloo, ON // July 17 – 24, 2014

Designed and built an alarm system using an **Arduino** and various interrupts that recognized a master key code unlock combination to turn alarm off. Incorporated multiple levels of filters to verify the alarm trip condition is legitimate.

Optical Character Recognition Application // June15 – 20, 2013

Android app that takes a picture of handwritten document, then scans the handwritten text and applies a **character recognition algorithm** to convert and output a digital text document.

EDUCATION

Candidate for Bachelor of Applied Science University of Waterloo, ON
Honours Systems Design Engineering Sept 2012 – Present

AWARDS

Best use of Vuforia (Qualcomm) – Boilermake Hackathon 2014 Purdue University, Indiana
October 19, 2014