Yang Liu

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Education

University of Calgary (U of C) Sept. 2013 – Dec. 2015

- M.S. (thesis-based) Computer Science (Post-Graduate Scholarship) GPA: 3.65 / 4.00

Huazhong University of Science & Technology (HUST) Sept. 2009 – Jun. 2013

- B.E. Electronics & Information Engineering GPA Ranking: 34 / 171 (top 20%)

Industry Experience

Splice Software (Calgary) **Developer** Apr. 2016 – Nov. 2016

- Studied company business workflow. Supported and assisted with core steps for client campaigns, ensuring data correctness and security.
- Worked in a Scrum development team primarily using Python, Django, MySQL, and MongoDB. Tested (QA) the biweekly releases. Fixed over 50 live bugs. Enhanced and expanded existing features in online applications for more friendly user experience and better stability.
- Deployed Tableau to analyze customer data, and embedded interactive visualization reports into portal for clients. Overwrote some past portal frameworks and developed new functionalities by introducing new features from latest Django upgrades for better performance and security.

Project Experience

Animation & Game Design (Processing, Java) **Designer & Developer** Sept. 2014 – Dec. 2014

- Learned and used Processing for creative programming in digital media. Created a 2D animation in memory of the game Braid. Developed a 2D tower defense game, and upgraded it to a 3D FPS game. Designed a virtual piano game, which was played with computer keyboard.
- Studied animation and game design approaches. Stepped into the world of digital arts visualization and innovation. Applied image processing techniques like thresholding and sharpening to the animation. Implemented a 3D camera system and a trajectory tracking framework in the 3D game. Implemented a 61-key piano tunes generator using sine waves.

Snapgram (Node.js) **Developer** Jan. 2014 – May. 2014

- Snapgram is a photo sharing Web site developed by our team (3 members) with Express, Jade, MySQL, GM, Mocha packages in Node.js. The site contains the basic login and logout functionality, enables users to upload and share photos from local devices, to follow or unfollow other users, to search and view photos, and to display photo feeds from followed users. Designed front end pages and user flows using Jade and Bootstrap. Connected front end to back end in the main JavaScript file. Tested the functionalities of the Web site using Mocha and Should. Fixed several bugs and improved performance when handling large amount of concurrent requests and followers.

Campus Life Assistant (Android) **Developer & Copywriter** May. 2012 – Oct. 2012

- Designed and developed an Android app for the China Internet Contest for Cloud & Mobile Computing (iCOME 2012). The iCOME was held by China Cloud Industry Alliance including Baidu, Lenovo, Tencent and Alibaba. Our team (3 members) was invited to Beijing to visit companies involved with cloud computing, to attend "Baidu 2012 Worldwide Conference", and for the final contest (top 10 in China).
- The Android app embedded with LBS and SNS, was targeted at university students for facilitating their campus lives. Developed basic interface and user flows. Built a database to track information of posted second-hand items with a WAMP server. Designed copywriting for the app.

Research Experience

Network Group, Department of Computer Science, U of C **Researcher & Developer** Dec. 2014 – Dec. 2015

- Supervised by Dr. Carey Williamson, did research in network workload characterization and traffic measurement. Collected and analyzed packet-level traffic between campus and the Internet. Focused on HTTP traffic generated by two campus Web servers.
- Processed HTTP traffic data (30 GB of compressed log files per day, Bro logging system) with Awk (shell) scripts and summarized request-response statistical information with Python. Discovered redundant and inefficient request traffic, studied behaviors of Web robots, proposed solutions for inefficiency issues. Completed master thesis. Submitted papers to IMC, PAM conferences. Accepted by WWW LILE workshop.

National Anti-Counterfeit Engineer Research Center, HUST **Research Assistant** Dec. 2011 – Sept. 2012

- Joined project "White Wine Detection Fingerprint Database" led by Ministry of Public Security (China). Extracted features from the infrared and ultraviolet spectrums of various wines, to create a fingerprint database and detect wine adulteration with machine learning techniques.
- Implemented data pre-processing approaches, such as PCA. Proposed new baseline correction algorithm. Implemented and compared detection accuracy results of machine learning algorithms in MATLAB, including PLS regression, SVM, and artificial neural networks. Developed new integrated algorithms to improve detection accuracy.

Extracurricular Experience

Department of Computer Science, U of C **Teaching Assistant** Jan. 2014 – June 2015

- CPSC 217: Introduction to Computer Science for Multidisciplinary Studies I (Python) Winter 2014
- CPSC 331: Data Structures, Algorithms, and Their Analysis (Java) Fall 2014
- CPSC 413: Design and Analysis of Algorithms I Winter 2015

Sales Department, China Galaxy Securities Co., Ltd, Wuhan, China **Account Manager Intern** Nov. 2012 – Feb. 2013

- Interned in a leading Chinese brokerage and investment bank. Learned daily business processes and Chinese stock trading rules. Worked as an account manager, served customers, promoted wealth management products. Made speeches and slides for branch manager.

Miscellaneous

Awards:

- Second Prize (5/100+) in ACM Programming Contest in HUST Nov. 2010
- Third Prize (93/623) in Central China Undergraduate Mathematical Modeling Invitation Tournament Apr. 2010

Professional Skills: Python, Java, C++, JavaScript, Linux, Node.js, Django, MySQL, MongoDB, Tableau, Scrum, Android, iOS, Git, Processing