HAOMIN (CALVIN) ZHENG

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Profile

As a software engineer, I have 6 years of commercial product development, including 3 years on Corel Painter (Digital painting, Mac & PC) and 3 years on UC Browser (Mobile web portal, iPhone & iPad).

As a computer science researcher, my area is on machine learning, computer vision, VR and depth perception, published paper on JOV.

Employment History

Corel Corp., Ottawa, ON — C++ Software Engineer, Jun 2016 - present

Developing and maintaining multi platform code (C/C++/Objective C/C#/XML) for Windows and Mac, producing multiple commercial end products (Corel Painter, Painter Essentials, Particle Shop) from the same master code base.

Coding new features for yearly release, optimizing brush engine utilizing openMP multithreading, vectorization with Intel Compiler, openCL etc.

UCWeb Inc., Guangzhou, China — iOS Software Engineer, 2011- 2014

Worked as a core team member to implement various features for UC Browser on iPhone and iPad platform (top 1 in App Store Utility category multiple times). Mainly programmed in Objective C/C++. Research on the feasibility of experimental new features, and have led a small team of 3-4 to tackle a complex task.

Best new employee award in first year. Promoted three times in first two years.

Education

McGill University, Montreal, Canada — M.Sc. Computer Science, 2014-2016

Awarded Graduate Excellence Fellowship ($8000) for the 2015-16 academic year, graduated in June 2016 with a GPA of 3.90 out of 4.

Machine learning research project such as predicting bike lane usage in Montreal.

Master thesis Depth perception in 3D clutter (also published on Journal of Vision), which involves measuring human depth perception using VR headsets and Unity3D.

电子科技大学 University of Electronic Science and Technology of China, Chengdu, China — Bachelor of Engineer, Computer Science, 2007-2011

Outstanding new student award upon entry, scholarship for the following two years.

2009 ACM International Collegiate Programming Contest - Third award

Other Experience & Achievements

Applied for <u>Patent</u>: Method and device for synchronizing display modes between browser and webpage (Publication No. 103258038A)
Describes a method utilizing JavaScript and CSS in conjunction to maintain a unified reading experience in a mobile browser under different lighting conditions.

Entered semi-final of 2015 McGill Dobson Cup Start-UP Competition
Teamed up with Jeffrey Scott, Clara Brissy and Danlan Chen with a start-up plan "FoodieForMe", responsible for developing iOS client app.

Participated 2016 Ubisoft Game Lab Competition
Teamed up with 7 team members from McGill and UdeM, to develop a game prototype with the theme of Ocean and systematic game design using Unity3D, primarily responsible for environment / underwater effects and AI implementation.

Skills

Proficient in C / Objective-C / C++ programming on both mobile and desktop platforms with 6 years of developing experience on commercial products, experienced in various design patterns, architectures and technologies.

Hands on experience on software profiling, detecting performance bottleneck, and using multithreading, advanced CPU vectorization, GPGPU for performance improvements.

Years of practical experiences with version control tools like svn and git/GitHub.

Thorough understanding of modern computer networking system, can flexibly utilize HTTP, TCP/IP protocol etc. Understanding of modern mobile browser cores, especially Webkit, e.g. render process, cache policy, etc.

Experienced in implementing various machine learning algorithms (SVM, Decision Tree, Neural Networks, Deep Learning etc.) for real world problems. Past projects include MNIST+ digits recognition, Montreal bike lane usage prediction etc.

Familiar with Unity 3D <u>game</u> design, developed 3D testing environment compatible with Oculus Rift head mounted display.

Fast learner for new programming language and new technology. (e.g. learnt Python in two weeks to build complex machine learning algorithm, learnt C# in days to build game demos in Unity 3D)