Jiasen XU

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Education

- **University of Waterloo** — Waterloo, Canada
  M.Eng in Electrical & Computer Engineering (GPA: 94.8/100) — Sept. 2014 - Sept. 2016
    - Graduate Research Scholarship and Faculty of Engineering Award recipient

- **University of Science and Technology of China** — Hefei, China
  B.Eng in Electrical Engineering (GPA: 91.0/100) — Sept. 2010 - Jul. 2014
    - **National Scholarship** recipient; ranked **10/311** in the School of Information Technology

Experience

- **Cloud Developer** — Vancouver, Canada
  SAP Canada Inc. — Nov. 2016 - Present
    - Building SAP's next generation cloud-based Analytics platform – SAP BusinessObjects Cloud.
    - Ramped up within two weeks with no previous knowledge of Javascript or SAPUI5, and start owning features from elaborating design, implementation and unit/integration testing.
    - Applied performance optimization by introducing lazy loading pattern and refactoring legacy code. Saved 20% of initial page loading time on average.

- **Software Developer** — Kitchener, Canada
  ApplyBoard Inc., a Startup Incubated in Velocity Garage — Jul. 2015 - Apr. 2016
    - Join the dev team as the first developer besides CTO; actively contributed to ApplyBoard.com the main app as a **full-stack** Rails developer, which has 50k+ active user globally with 400k+ visits to date.
    - In charge of testing automation, Search Engine Optimization (SEO), database schema design and migration.

- **Research Assistant** — Waterloo, Canada
  University of Waterloo, Supervised by Professor En-Hui Yang — Sep. 2014 - Apr. 2016
    - Redesigned the quantizer in HEVC/H.265 to further improve video compression performance. Methodology is based on video content understanding using machine learning and statistical analysis tools.

Notable Projects

- **Enhance the Constant Value Checker in the Checker Framework**
  Mentored by Professor Michael Ernst (MIT) and Professor Werner Dietl (Google) — Jun. 2016 - Present
    - The Checker Framework provides pluggable type checking for Java, which is built upon the Type Annotations compiler in Java 8 (JSR308). This project enhances the Constant Value Checker, one of the core checkers in the Checker Framework, which uses annotations to indicate the possible values of an expression at compile time.
    - By introducing the @IntRange annotation and a complex set of range maths, the flexitbility and the precision of the constant value checker are greatly improved, making it easier to catch potential runtime exceptions, e.g. *ArithmeticException* and *ArrayIndexOutOfBoundException*, at compile time.

- **JPEG Image Decoder**
  Individual side project — Jan. 2015 - Jun. 2015
    - Implemented a console application that are able to decode nearly all JPEG images within a second.
    - Application can handle the prevalent Baseline/Progressive encoded images; multi-resolution decoding for Progressive encoded images is also supported.

Highlight of Skills

- **Programming:** Solid knowledge of algorithms and data structures; proficient in C/C++, Java, JavaScript, Ruby and Matlab; contributed to various large open source projects; started programming since 11 years old (using Pascal!).
- **Web Development:** Proficient in web development with Ruby on Rails, HTML, CSS and Javascript; Also experience with large-scale rich front-end JavaScript application with SAPUI5 and node.js.
- **Database System:** Proficient in SQL; Hands-on experience in both Relational and NoSQL databases
- **Development Tools:** Familiar with VS/Matlab/Eclipse, Linux, vim, git/github/gerrit, ant/maven, travis/jenkins.
- **Research:** 3 years' research experience in data compression, image processing and information theory; Expert in JPEG compression standard; In-depth understanding of HEVC/H.265 video compression standard