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Jiasen XU

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Highlight of Skills

- **Programming:** Solid knowledge of algorithms and data structures; proficient in C/C++, Java, JavaScript and Matlab; contributed to various popular Open Source projects; started programming since 11 years old (using Pascal!).
- **Web Development:** Proficient in web development with Ruby on Rails; also experienced with large-scale rich front-end JavaScript application with SAPUI5 and Node.js.
- **Database System:** Proficient in SQL; Hands-on experience in both NoSQL and relational 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

Experience

- **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 feature ownership from elaborating design, implementation, unit/integration testing and maintenance.
  - Optimized page loading performance by introducing lazy loading design pattern – on average 20% of time saved.
  - Greatly reduced code duplication by refactoring legacy code to be aligned with OO pattern.
- **Software Developer** — Kitchener, Canada
  ApplyBoard Inc., a Startup Incubated in Velocity Garage — *Jul. 2015 - Apr. 2016*
  - Joined 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

- **Feature Enhancement for Java Pluggable Type System – the Checker Framework**
  Mentored by Professor Michael Ernst (UWashington) and Professor Werner Dietl (Google) — *Jun. 2016 - Mar. 2017*
  - Built upon the Type Annotations compiler in Java 8 (JSR308), the Checker Framework (CF) provides pluggable type checking for Java. This project extends the Constant Value Checker, a core checker in CF, to perform interval analysis – that is, it determines, for each expression, a statically-known lower and upper bound.
  - By introducing the @IntRange annotation and a complex set of range maths, the flexibility and the precision of the constant value checker are greatly improved, making it more efficient in catching potential runtime exceptions, e.g. *ArithmeticException* and *ArrayIndexOutOfBoundsException*, at compile time.
  - Self-proposed feature incorporated in the latest release. Credited as one of the 36 contributors.
- **JPEG Image Decoder**
  Individual side project — *Jan. 2015 - Jun. 2015*
  - Implemented an image decoder that can decode nearly all images in JPEG format within a second. Multi-resolution decoding is also supported for images encoded in progressive mode.

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