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Jiasen XU

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Experience

- **Software Engineer** Vancouver, Canada
Microsoft, Bing Ads *Jul. 2017 - present*
 - Conducted performance optimization on large scale distributed system – system instrumentation, log data pipeline building and visualization, bottleneck analysis, partitioned query optimization and A/B testing.
 - Enhanced the Anomaly Detection system to handle signal with seasonality by using Singular Spectrum Analysis.
 - Contributed to security, tools and infrastructure for large scale distributed system. Designed and created a zero downtime X.509 certificate renewal strategy.
- **Software Engineer** Vancouver, Canada
SAP, SAP Analytic Cloud *Nov. 2016 - Jul. 2017*
 - Worked on rich front-end SaaS cloud application for BI analysis, including requirement engineering, agile development and testing automation.
 - Optimized page loading performance by introducing lazy loading design pattern. 20% of time saved on average.
- **Research Assistant** Waterloo, Canada
University of Waterloo, Multi-Media Lab *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*
 - A JPEG image decoder that supports multi-resolution decoding 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

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