Tse-Hsun (Peter) Chen

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peterTseHsun@gmail.com
613-539-2423

QUALIFICATIONS

- Four years of professional experience
- Strong data analytics and data mining skills
- Experience with Spark and Kafka for data analysis
- Deep knowledge of performance engineering
- Strong programming skills (e.g., Java, Python, R)
- Experience with web systems (e.g., REST, SOAP)
- Experience with both SQL and NoSQL databases
- Strong communication skills

EDUCATION

Queen's University **Kingston, ON, Canada** **Sept. 2011 - Sept. 2016**

PhD in Computer Science with a focus on performance engineering, data mining, and program analysis
MSc in Computer Science with a focus on data mining, text analysis, and software engineering

University of British Columbia **Vancouver, BC, Canada** **Sept. 2005 - June 2010**

BSc in Computer Science with a focus on networking, distributed systems, and database

PROFESSIONAL EXPERIENCE

Performance Associate **BlackBerry, Waterloo, ON** **Jan. 2013 - Current**

Technologies: Java, Python, R, Perl, JMeter, MongoDB, SQL Server, SOAP, REST, Spark, Kafka, Vert.x

- Led, designed, and implemented an autonomic real-time system configuration optimization framework that helped improve system performance by over 30%.
- Led, designed, and implemented a database bug detection framework using static analysis
- Improved system memory usage on database servers by over 50% using program analysis.
- Developed a tool for debugging the performance problems of ORM-generated SQLs.
- Designed and implemented a log analysis framework using MongoDB and data mining techniques.
- Created test cases and tools for performance testing using JMeter.

Research Assistant **Queen's University, Kingston, ON** **Sept. 2011 - Current**

Technologies: Java, Python, R

- Conducted research on performance engineering and log analysis
- Applied program analysis approaches to detect performance problems in database-centric applications
- Applied data mining, machine learning, and statistical techniques to discover the relationships between software concerns (such as functionality) and software defects.
- Studied text mining and information retrieval, and applied these techniques to help improve software quality.
- Wrote tools in Python for statistical analysis and data processing.
- Used the R language for statistical programming and data mining.

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Part-Time Software Developer | **Scalable Analytics Inc, Vancouver, BC** | **Apr. 2010 - Nov. 2010**

Technologies: Java, Python, C++, JavaScript, ActionScript

- Explored and used various open source systems and integrated them with the project
- Participated in the design decision of the User Interface
- Implemented data visualizations by using Java, JavaScript, and ActionScript
- Leveraged graph structure to represent relationships among data and to utilize space in the memory
- Wrote scripts in Python to parse and generate XML files for data transfer

TECHNICAL SKILLS

Programming	Big Data Analysis	Web	Database	Development	Testing
Java ***	**R Caret *****	**REST *****	**Hibernate *****	**Bash *****	**JMeter *****
Python ***	**Spark *****	**SOAP *****	**MongoDB ****	**Linux *****	**Static Analysis *****
R ***	**Kafka ****	**JAX-RS *****	**MySQL ****	**SVN *****	**SoapUI *****
AspectJ ***	**Scikit Learn ****	**Django *****	**MS SQL ****	**Git *****	**APM Tools ****
C/C++ **	**D3.js ****	**Spring ****	**ElasticSearch ****	**Eclipse *****	**TestNG ****
JavaScript *	**HighCharts ****	**Vert.x ****	**RethinkDB ****	**Maven *****	**JUnit ****

* indicates the level of experience (*** - advanced ** - intermediate * -basic)

ADDITIONAL INFORMATION

SELECTED AWARDS AND FUNDINGS

- Microsoft Azure Research Grant, Microsoft, 2016
- Queen Elizabeth II Scholarship in Science and Technology, Queen's University, 2015
- ACM SIGSOFT CAPS Award, ACM, 2014
- Queen's Graduate Award, Queen's University, 2011, 2013, 2016
- Conference Travel Award, Queen's University, 2011, 2013, 2016

SELECTED PUBLICATIONS (TOOLS USED IN PRACTICE)

- *Detecting Performance Anti-patterns for Applications Developed Using Object-Relational Mapping*, International Conference on Software Engineering (ICSE), 2014
- *Finding and Evaluating the Performance Impact of Redundant Data Access for Applications that are Developed Using Object-Relational Mapping Frameworks*, IEEE Transaction on Software Engineering (TSE), 2016
- *CacheOptimizer: Helping Developers Configure Caching Frameworks for Hibernate-based Database-centric Web Applications*, International Symposium on the Foundations of Software Engineering (FSE), 2016