CUONG T. DONG-SI

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Summary

- Experienced in designing and developing of **automated** testing tools and frameworks, written in Java and Python.
- Experienced in software testing, test automation, and test methodologies. Experienced in test development to achieve **portable** tests for various platforms and operating systems.

Skills

Languages:	Java, C/C++, Python, Perl, Matlab, SQL, XML, XQuery, HTML.
Java stack:	JDBC, Guava, Swing, JCommander, SLF4J, SWTBot, JUnit, TestNG, Selenium, Apache Ant, Maven, Gradle, JMeter, RestAssured, JMockit.
Other Lib.:	ANTLR, Boost, OpenCV, Eigen, Numpy, Matplotlib.
OS:	Windows, Mac OS, CentOS, Ubuntu, SunOS, HP-UX.
Database:	SQLite, MySQL, Netezza, Vertica, Cassandra, Hive/Hadoop.
Tools:	Eclipse, IntelliJ, PyCharm, Visual Studio, Git, SourceTree, Perforce, Jenkins, Confluence, JIRA, Trello, Splunk, Chef.

Work Experience

Software Engineer in Quality II, Intuit Inc. 12/2014 - present

- Develop and automate test cases for backend infrastructure and services in QuickBooks Online and Small Business Group ecosystem.
- Design and implement test frameworks to facilitate automated unit and functional testing in **Big Data** projects. Work with developers and data analysts on project requirements to make informed testing decisions and develop/evangelize appropriate test solutions.

Recent Projects and Achievements:

- Designed and implemented test plans for QuickBooks Online ecosystem's **Data Mart** projects, verifying business analytics requirements and functionalities implemented and validated.
- Implemented a test automation framework to facilitate automated unit/functional testing of **SQL scripts**, verifying Extract-Transform-Load (**ETL**) processes between data sources (e.g., Netezza, Hive, HDFS, Vertica), and validating data consistency and integrity.
- Achievements: Three successful releases of Data Mart with different analytic use cases, approved and used by business analysts and data scientists. Two **Intuit Spotlight Awards** for demonstrating Intuit Values "Learn Fast" and "Deliver Awesome".

Software QA Engineer, Objectivity Inc. 7/2012 - 12/2014

- Developed and automated test cases, maintained and executed test suites for company's database products, Objectivity and InfiniteGraph, and their various utility tools.
- Designed and implemented frameworks for automated performance testing. Worked with developers to make informed testing decisions and develop appropriate test solutions.
- Reviewed Java codes and enforced good practices for more robust and flexible Java API.

Selected Projects and Achievements:

- Designed and implemented test plans for measuring **data ingestion performance** of graph database InfiniteGraph in **distributed multi-client settings**. Set up and configured a network of eight Linux and Windows hosts with OpenSSH. **Fully automated** performance tests using Python scripts, in which multiple Java test applications are compiled and ingest data simultaneously from multiple remote hosts.
- Designed and developed an automated test suite for testing Java byte code injection tools, including a custom Java parser (based on ANLTR) to verify correctness of decompiled byte codes after injection.
- Developed **generic-based** JUnit tests for database-backed Java collection classes, based on Guava library. 5000+ JUnit tests effectively added into nightly test suite within a month.
- Developed functional tests for Talend data connectors that convert data from MySQL and Cassandra databases to Objectivity databases.

Additional Experience

Graduate Student Researcher, University of California, Riverside 9/2009 - 4/2012

- Designed and implemented sensor fusion algorithms for accelerometers, gyroscopes, and cameras, with applications targeted for smartphones and driverless car navigation systems.
- Implemented sensor-based navigation algorithms, based on probabilistic models and statistical inference methods, using C++ and Matlab. Designed and implemented pluggable sensor simulators for verifying and benchmarking performance of those navigation algorithms.
- Proposed and implemented various numerical algorithms for problem solving, including convex optimization techniques, Gauss-Newton algorithm and its variants.
- Achievements: Innovative algorithms for vision-aided inertial navigation, published at 2011 and 2012 ICRA conferences.

Research Software Engineer, National University of Singapore 8/2006 - 7/2009

- Worked in driverless car projects, a collaboration effort of multiple Singaporean industrial research labs, managed by Defense Science Organization (DSO), Singapore.
- Designed, implemented and evaluated computer vision algorithms for visual sensor modules.
- Designed and implemented an adaptive machine learning algorithm to identify drivable road surface from stereo images, by building statistical models of road appearance.
- Achievements: Three innovative visual sensor modules, presented at 2008 IROS and SMC conferences. Linux drivers for Windows-native IEEE-1394 cameras.

Education

Master of Science, 2009 - 2012, University of California, Riverside.

Bachelor of Engineering, 2002 - 2006, National University of Singapore, Singapore.

Honors & Awards

- **Intuit Spotlight Award** [August 2015]: for demonstrating Intuit Value "Deliver Awesome".
- **Intuit Spotlight Award** [March 2015]: for demonstrating Intuit Value "Learn Fast".
- **IEEE ICRA Student Travel Award** [2011, 2012], by **IEEE Robotics and Automation Society**.
- **Dean's Distinguished Fellowship** [2009], by **University of California, Riverside**.
- **Singapore Scholarship**, by **Singapore Ministry of Foreign Affairs** [2002-06], full tuition scholarship for undergraduate study, awarded to the top students of ASEAN nations.
- **Dean's List**, Faculty of Engineering, National University of Singapore [2002-04].
- **Champion**, IEEE All-Singapore University Tech Quiz [2005, 2006].
- **First Prize**, Vietnam National Physics Olympiad for Universities [2002]
- **Merit Prize**, Vietnam National Physics Olympiad for High Schools [2001]