Yucheng Zhang

CONTACT
INFORMATION

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EDUCATION

The University of British Columbia (UBC), Vancouver, British Columbia, Canada

MASc. in Computer Engineering   9/2014 – Present
- Advisor: Dr. Ali Mesbah
- GPA: 4.0/4.33

The University of British Columbia (UBC), Vancouver, British Columbia, Canada

B.Sc. in Computer Science and Statistics   9/2009 – 5/2014
- GPA: 3.85/4.33

University of Waterloo, Ontario, Canada

Mathematics/Business Honors (Transfer Credit)   9/2008 – 12/2008

AWARDS AND
HONORS
- ACM SIGSOFT Grant   2015
- Graduate student travel fund of University of British Columbia   2015
- University of British Columbia President's Entrance Scholarship   2009
- University of Waterloo President's Scholarship   2008

PUBLICATIONS

[1] **Assertions Are Strongly Correlated With Test Suite Effectiveness**
Yucheng Zhang and Ali Mesbah
*In Proc. the 10th Joint Meeting of the European Software Engineering Conference and the ACM SIGSOFT Symposium on the Foundations of Software Engineering (**ESEC/FSE 2015**)*. Bergamo, Italy. (Acceptance Rate: 25.4%)

ACADEMIC
ACTIVITIES

Conference Talks
- Assertions Are Strongly Correlated With Test Suite Effectiveness
ACM SIGSOFT Symposium on the Foundations of Software Engineering (FSE 2015)

RESEARCH
EXPERIENCE

Research Assistant, (UBC), Vancouver, British Columbia, Canada   Sep 2014 – Present

Research Interest: Software Testing

Advisor: Dr. Ali Mesbah

Assertions Are Strongly correlated With Test Suite Effectiveness
- Designed and conducted controlled experiments to verify the influence of assertions on test suite effectiveness from three different angles : assertion quantity, assertion coverage, and assertion types
- Built infrastructure to automatically compose test suites of target properties and executed through mutation testing
- Statistically analyze the experiment results by using correlations, significant tests, and analysis of variance
- Published at **ESEC/FSE 2015**

Why Assertion Types Influence Test Suite Effectiveness
- Customized PIT (a very popular mutation testing tool) to collect mapping information between test assertions and detectable mutants
- Built infrastructure to automatically collect assertion related properties, such as assertion content types, direct/indirect assertion coverage, assertion density, cyclomatic complexity, and etc.

- Study and make understanding of the experiment result from different angles, ex : relationship between assertions content types and mutation operators

TEACHING EXPERIENCE

Teaching Assistant, The University of British Columbia

• Economic Analysis of Engineering Projects (CPEN 481)	1/2016 – Present
• Software Testing (CPEN 422)	9/2015 – 12/2015
• Introduction to Probability (Math 302)	1/2014 – 5/2014
• Applied Linear Algebra (Math 307)	9/2013 – 12/2013
• Math 180	9/2013 – 12/2013

WORKING EXPERIENCE

Samsung Research America (SRA), Mountain View, CA, USA   5/2015 – 9/2015

Software Engineer Intern

- Supervisor : Bruce Hoenig, David Paquet
- Designed and maintained a database for the GPU research team based on complex design requirements.
- Analyzed and visualized data generated by various processes of the Advanced Processor Lab to provide insights on user volume consumption, job delays, etc.
- Implemented a team profile management tool which are now being used by the entire Advanced Processor Lab.

NEXSM Inc.,Vancouver, British Columbia, Canada   6/2014 – 7/2014

Database Management and Web Developer

- Independently designed and implemented a social media application.

School of Music, UBC,Vancouver, British Columbia, Canada   5/2015 – 8/2013

Database Management and Web Developer Assistant

- Independently designed and implemented a student information management and practice room hours booking system.
- Designed and implemented database of the application.
- Configured and deployed the application on a Redhat Linux server.
- The application is currently being used by school of music and their students.

Gumstix Research (Canada) Ltd., Vancouver, British Columbia, Canada   1/2012 – 8/2012

Software Engineer

- Refactored the webERP company management system and osCommerce online store using Symfony2 as framework, Doctrine as database management tool, and Twig as template.
- Independently developed a product selector tool using JavaScript and DOJO to make it easier for customers to understand and select their desired products.
- Improved and added new features to the existing web application as required by customers.
- Assisted system admin in implementing auto application installer using Python.

TECHNICAL SKILLS

- *Programming Languages*: Java, C++, C, PHP, JavaScript, Python, HTML, SQL, CSS
- *Develop Environments*: Eclipse, Visual Studio, IntelliJ, gcc
- Specialty: Algorithm Design, Software Testing, Full-Stack Web Development, Data Analysis and Modeling

ACTIVITIES AND INTERESTS

- Accepted professional violin training for 10+ years, and achieved Level 9 (**the highest technical level** issued by Chinese Musicians' Association) at the age of 15
- Won the Euclid Mathematics Contest in Waterloo
- Making handcrafts including beading, knitting and crocheting