

Yucheng Zhang

CONTACT INFORMATION 229-3755 W 6th Ave
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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

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)

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, The University of British Columbia, Canada 5/2015 – 8/2013 Database Management and Web Developer Assistant <ul style="list-style-type: none"> 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, BC, Canada 1/2012 – 8/2012 Software Engineer <ul style="list-style-type: none"> 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.
RESEARCH EXPERIENCE	Research Assistant ,The University of British Columbia, Vancouver, British Columbia, Canada Sep 2014 – Present Advisor: Dr. Ali Mesbah Assertions Are Strongly correlated With Test Suite Effectiveness <ul style="list-style-type: none"> 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 an infrastructure to automatically compose test suites of target properties and executed through mutation testing. Statistically analyzed the experiment results by using correlations, significant tests, and analysis of variance. Published one research paper at ESEC/FSE 2015. Why Assertion Types Influence Test Suite Effectiveness <ul style="list-style-type: none"> Customized PIT (a very popular mutation testing tool) to collect mapping information between test assertions and detectable mutants. Built an 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 <ul style="list-style-type: none"> 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 Differential Calculus with Physical Applications (Math 180) 9/2013 – 12/2013
ACTIVITIES AND INTERESTS	<ul style="list-style-type: none"> 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 First prize of provincial competition of Go Won the Euclid Mathematics Contest at Waterloo in 2008 Making handcrafts including beading, knitting and crocheting