Zhiqiang Zang

Education

2018–Present	**Ph.D.**, *The University of Texas at Austin (UT Austin)*, Austin, TX, U.S.. Software Engineering and Systems Advisor: Milos Gligoric
2014–2018	**B.E.**, *Beijing University of Posts and Telecommunications (BUPT)*, Beijing, China. Telecommunication Engineering

Publications

[1] Ben Buhse, Thomas Wei, **Zhiqiang Zang**, Aleksandar Milicevic, and Milos Gligoric. VeDebug: Regression debugging tool for Java. In *International Conference on Software Engineering, Tool Demonstrations Track*, pages 15–18, Montreal, Canada, 2019.

Industry Experience

Summer 2020	**Research Intern**, *Fujitsu Laboratories of America*, Sunnyvale, CA, US (Remote). Designed, implemented and evaluated a prototype, to improve the quality of the training dataset
Summer 2019	**Software Development Intern**, *NIO*, Beijing, China. Developed and improved a physical and visual simulator for autonomous vehicles ○ Devised a method to customize existed APIs and to easily add new ones ○ Implemented APIs to maneuver vehicles and to retrieve geographic data ○ C/C++, Python, Unreal Engine

Selected Projects

AndroidUnit	Evaluated the quality of randomly generated tests by Randoop via performing mutation testing with MDroid+ on real-life Android applications. Team project.
CoCoLight	Measured runtime overhead of code coverage tools over 20 open-source projects. Tweaked JaCoCo to save runtime overhead. Dynamic instrumentation(ASM library, javaagent), Java.

Deuterium	A framework to unify execution of declarative and imperative code in Java. Implemented 12 basic and advanced data structures in both declarative and imperative version. Evaluated the framework by running both random and bounded exhaustive generated tests for the data structures. Randoop, Java. Team project.
AMB	Defined Java bytecode semantics in Alloy programming language. Implemented JVM specifications in Alloy.
VeDebug	A Java debugging tool that 1) automatically sets breakpoints where the current execution diverges from the previously captured one, and 2) provides video player features e.g., speed up/slow down the replay. Dynamic instrumentation(ASM library, javaagent), Java. Team project.
RABot AI	A human-like RTS game bot, which plays against the original computer player in the game with a win rate of over 80% under fixed conditions. TensorFlow Object Detection API, OpenCV, Python.
Sandpainting	An Android application for putting a sand painting filter to photos. Team project.

Honors & Awards

2017	Outstanding Undergraduate Award Finalist, *BUPT*	*0.6%*
2015–2016	Qualcomm Innovation Scholarship, *BUPT*	*0.8%*
2014–2015	Qualcomm Innovation Scholarship, *BUPT*	*0.8%*

Teaching Experience

Spring 2020	Teaching Assistant, *UT Austin* EE 312H: Software Design and Implementation I (35 students)
Fall 2019	Teaching Assistant, *UT Austin* EE 312: Software Design and Implementation I (60 students)
Spring 2019	Teaching Assistant, *UT Austin* EE 422C: Software Design and Implementation II (172 students)

Professional Service

ISSTA-AE 2020	Artifact evaluation committee member, *International Symposium on Software Testing and Analysis*
ISSTA 2020	External reviewer, *International Symposium on Software Testing and Analysis*

Technical Skills

- Programming Languages: Java (everyday), Bash (everyday), Alloy, Python, C/C++
- Tools: Emacs (everyday), Git (everyday), ASM, JPF, Randoop