

# ZANG, ZHIQIANG

🔗 Objective: Software Engineer Intern

✉ zhiqiang.zang@utexas.edu  
📞 (+1) 737-333-2408 (US)  
🌐 <https://github.com/cptgit>  
🌐 <https://rocketeer.buptra.net/>

## 🎓 EDUCATION

### The University of Texas at Austin

Austin, TX, U.S.

*Ph.D.* in Software Engineering and Systems GPA: 3.83/4.00

Aug 2018 – Present

### Beijing University of Posts and Telecommunications

Beijing, P.R. China

*B.E.* in Telecommunication Engineering GPA: 91/100 Rank: 11/556

Sep 2014 – Jun 2018

## 👛 INTERNSHIP

### NIO

Jul 2019 – Aug 2019

*Summer Intern* Mentor: Zhuo Cheng

Beijing, P.R. China

Devised a technique of customizing APIs in the simulator to solve the insufficiency of APIs to retrieve data and control vehicles, which added variety to raw data acquired from the simulator

## 🚀 PROJECTS

### Towards Accelerating Code Coverage Collection

Feb 2019 – Apr 2019

- Motivation: Reduce runtime overhead of **JaCoCo** caused by repetitive execution of instrumented code
- Techniques: Dynamic Instrumentation (**ASM** library and **Javaagent**)
- Results: Accelerated little because optimization itself introduces almost the same overhead as the gain

### VeDebug: Video-based Time-travel Regression Debugging Tool for Java

Aug 2018 – Nov 2018

- Motivation: Assist debugging by telling how and where two executions differ, e.g. due to flakiness
- Techniques: Dynamic Instrumentation (ASM library and Javaagent), **Record & Replay**
- Results: Identified the erroneous lines for two bugs in Apache Commons Math and Google **Guava**

### RABot AID: Human-like RTS Game Bot

Dec 2017 – May 2018

- Motivation: Let the bot play like a human by watching the screen and controlling keyboard/mouse
- Techniques: Deep Learning, **OpenCV**, Template Match, **TensorFlow** Object Detection API
- Results: Played against the AI embedded in the game with a win rate of over 80% under fixed conditions

## 📖 PUBLICATIONS

### VeDebug: Regression Debugging Tool for Java

B. Buhse, T. Wei, Z. Zang, A. Milicevic, and M. Gligoric, “VeDebug: Regression debugging tool for Java,” in *2019 IEEE/ACM 41st International Conference on Software Engineering: Companion Proceedings*. IEEE Press, 2019, pp. 15–18

## 🏆 AWARDS

Undergraduate Top Prize Scholarship of BUPT Nomination (0.6%)

Nov 2017

First Class Scholarship of BUPT

Nov 2017

Qualcomm Innovation Scholarship (0.8%) × 2

Dec 2015 & 2016

Second Prize Award for National College Students Mathematical Competition

Nov 2015

## ⚙️ SKILLS

- Languages: Java, Bash, Alloy, Python, C/C++
- Tools: Emacs, Git, ASM