

Bo Zhou (bzhou003@cs.ucr.edu)

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SUMMARY

- Seeking for a full-time Software Engineer position starting from 2016 Fall.

PhD student in computer science, specializing in software testing & debugging, software evolution and machine learning. He has solid skills in algorithm, data structure and extensive research experience. A very passionate researcher and engineer, have strong sense of responsibility and a good team player.

EDUCATION

University of California, Riverside, Riverside, USA September 2011 – August 2016(Expected)
Major: Computer Science *Doctor of Philosophy* **GPA: 3.63/4.0**

Hiroshima University, Higashi-Hiroshima City, Japan April 2009 – March 2011
Major: Information Engineering *Master of Engineering* **GPA: 3.8/4.0**

UESTC, Chengdu City, China September 2003 – July 2007
Major: Computer Science *Bachelor of Engineering* **GPA: 3.3/4.0**

RESEARCH EXPERIENCE

Reduce Bug Reproduction Steps on Android March 2015 – Present

- Build Event Dependency Graph (EDG) dynamically with record/replay scheme.
- Proposed modified delta-debugging algorithm on Android to reduce the reproduce steps which can benefit the developers.
- Implemented in Java on Android platform.

Cross-platform Analysis on Software Bugs July 2013 – December 2014

- Extracted bug fixing process features from over 440,000 bug reports on 88 open source projects across desktop, Android and iOS platforms.
- Built quantitative analysis to discover differences between desktop and mobile platform bugs/bug fixing process. Extracted topics from bug reports to understand bugs' nature, categories and differences between platforms.
- Compared bug characteristics of different severity class on desktop and Android bugs quantitatively and qualitatively.
- Implemented in R and Python with machine learning tool (MALLET) on the Linux environment.

Empirical Study on Concurrency Bugs September 2012 – June 2013

- Extracted 250 concurrency bugs of four types from over 250,000 bug reports.
- Compared bug characteristics and bug-fixing processes between concurrency bugs and non-concurrency bugs, also different types of concurrency bugs. Built 3 types of prediction models to estimate concurrency bugs appearance, concurrency bug type and bug location in the source.
- Implemented in R and Java with data mining tool (Weka and Mulan) on the Linux environment.

Markov Chain Monte Carlo Random Testing April 2009 – December 2010

- Proposed a new scheme: Markov Chain Monte Carlo Random Testing (MCMC-RT) by using Bayesian inference for failure occurrence probabilities. MCMC-RT can drastically improve the effectiveness when compared with Random Testing and Adaptive Random Testing.
- Applied MCMC-RT in test case prioritization on regression testing.
- Implemented in C on the Linux environment.

PUBLICATIONS

M. Gharehyazie, **B. Zhou** and I. Neamtiu. "Expertise and Behavior of Unix Command Line Users: An Exploratory Study". *ACHI'16*, pp. 315-322, 2016.

B. Zhou, I. Neamtiu and R. Gupta. "How Do Bug Characteristics Differ Across Severity Classes: A Multi-platform Study". *ISSRE'15*, pp. 507-517, 2015.

B. Zhou, I. Neamtiu and R. Gupta. "A Cross-platform Analysis of Bugs and Bug-fixing in Open Source Projects: Desktop vs. Android vs. iOS", *EASE'15*, pp. 7:1-10, 2015.

B. Zhou, I. Neamtiu and R. Gupta. "Predicting Concurrency Bugs: How Many, What Kind and Where Are They?", *EASE'15*, pp. 6:1-10, 2015.

B. Zhou, H. Nakamura and T. Dohi. "Enhancing Performance of Random Testing Through Markov Chain Monte Carlo Methods," *IEEE Trans. Comput.*, vol. 62-1, pp. 186-192, 2013.

B. Zhou, H. Nakamura and T. Dohi. "Application of Markov Chain Monte Carlo Random Testing to Test Case Prioritization in Regression Testing," *IEICE Trans. Inf.& Syst.(D)*, vol. E95-D(9), pp. 2219-2226, 2012.

B. Zhou, H. Nakamura and T. Dohi. "Markov Chain Monte Carlo Random Testing," *Advanced Computer Science and Information Technology*, vol. 6059, pp. 447-456, 2010.

TECHNICAL SKILLS

Programming Language: Java, Python, C, C++, UNIX shell scripting.

Application: R, Maven, Eclipse, JUnit, RESTful services and Machine learning/Data mining tools.

Operating System: Microsoft Windows family, Linux, Solaris, BSD and other UNIX variants.