

QIRUN ZHANG

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Research Interests

My general research interests are in programming languages and software engineering, focusing on developing efficient, effective static program analysis frameworks to improve software reliability and security.

Education

2009 — 2013	The Chinese University of Hong Kong , Hong Kong, China Ph.D. in Computer Science and Engineering Thesis: Scaling CFL-Reachability-Based Alias Analysis: Theory and Practice Advisor: Prof. Michael R. Lyu
2005 — 2009	Zhejiang University , Hangzhou, China B.E. in Computer Science Honors Program, Chu-Kochen Honors College

Research Experience

2014 — present	University of California, Davis , Davis, USA Postdoctoral Scholar Advisor: Prof. Zhendong Su
2013 — 2014	Hong Kong University of Science and Technology , Hong Kong, China Postdoctoral Fellow Advisor: Prof. Charles Zhang

Publications

[ICSE' 18]	Chengnian Sun, Yuanbo Li, Qirun Zhang , Tianxiao Gu, and Zhendong Su Perses: Syntax-Guided Program Reduction The 40th International Conference on Software Engineering (to appear)
[PLDI' 17]	Qirun Zhang , Chengnian Sun, and Zhendong Su Skeletal Program Enumeration for Rigorous Compiler Testing The 38th ACM SIGPLAN Conference on Programming Language Design and Implementation
[POPL' 17]	Qirun Zhang and Zhendong Su Context-Sensitive Data-Dependence Analysis via Linear Conjunctive Language Reachability The 44th ACM SIGPLAN Symposium on Principles of Programming Languages

[ISSTA' 16]	Chengnian Sun, Vu Le, Qirun Zhang , and Zhendong Su Toward Understanding Compiler Bugs in GCC and LLVM The 25th International Symposium on Software Testing and Analysis
[OOPSLA' 14]	Qirun Zhang , Xiao Xiao, Charles Zhang, Hao Yuan, and Zhendong Su Efficient Subcubic Alias Analysis for C The 29th ACM SIGPLAN Conference on Object-Oriented Programming, Systems, Languages, and Applications
[PLDI' 14]	Xiao Xiao, Qirun Zhang , Jinguo Zhou, and Charles Zhang Persistent Pointer Information The 35th ACM SIGPLAN Conference on Programming Language Design and Implementation
[PLDI' 13]	Qirun Zhang , Michael R. Lyu, Hao Yuan, and Zhendong Su Fast Algorithms for Dyck-CFL-Reachability with Applications to Alias Analysis The 34th ACM SIGPLAN Conference on Programming Language Design and Implementation
[FASE' 11]	Qirun Zhang , Wujie Zheng, and Michael R. Lyu Flow-Augmented Call Graph: A New Foundation for Taming API Complexity The 14th International Conference on Fundamental Approaches to Software Engineering
[FSE-NI' 11]	Wujie Zheng, Qirun Zhang , and Michael R. Lyu Cross-Library API Recommendation Using Web Search Engines The 19th ACM SIGSOFT Symposium on the Foundations of Software Engineering, New Ideas Track
[ASE-Short' 11]	Wujie Zheng, Qirun Zhang , Michael R. Lyu, and Tao Xie Random Unit-Test Generation with MUT-aware Sequence Recommendation The 25th IEEE/ACM International Conference on Automated Software Engineering, Short Paper

Research Grants

2017	Practical, Rigorous Testing of the Mozilla Rust and bindgen Compilers co-PI (with PI: Zhendong Su, University of California, Davis) Mozilla Corporation Gift. Amount: \$46,848
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Professional Services

Program Committee	SETTA'17, POPL-SRC'17
External Review Committee	PLDI'18
Artifact Evaluation Committee	ISSTA'18, PLDI'17, ISSTA'17
Conference Paper Reviewer	CC'17, ISSTA'17, CAV'17, ICSE'17, ICDT'16, CAV'15, OOPSLA'15, FSE'15, ICSE'14, ISSTA'14, FSE'14, OOPSLA'13, WWW'10
Journal Reviewer	TACO'16, TOPLAS'15

Invited Talks

Feb. 2017	Program Analysis via Linear Conjunctive Language Reachability Stanford University, Stanford, USA
Feb. 2017	Program Analysis via Linear Conjunctive Language Reachability University of California, Berkeley, Berkeley, USA
Dec. 2016	Program Analysis via Linear Conjunctive Language Reachability National University of Defense Technology, Changsha, China
Nov. 2016	Program Analysis via Linear Conjunctive Language Reachability Tsinghua University, Beijing, China
Nov. 2016	Program Analysis via Linear Conjunctive Language Reachability Institute of Software Chinese Academy of Sciences, Beijing, China

Teaching Experience

Instructor	ECS 122A Algorithm Design and Analysis (Summer 2017, UC Davis)
Guest Lecturer	ECS 289C Programming Languages and Compilers (Winter 2017) – Instructor: Prof. Cindy Rubio-González (UC Davis)
Teaching Assistant	CSCI 3100 Software Engineering (Spring 2010, Spring 2011, Spring 2012, Spring 2013) – Instructor: Prof. Michael R. Lyu (CUHK) CSCI 3150 Introduction to Operating Systems (Fall 2012) – Instructor: Prof. Tsz Yeung Wong (CUHK) CSCI 3180 Principles of Programming Languages (Fall 2009) – Instructor: Prof. Elisa Baniassad (CUHK) CSCI 3530 Software Technology (Fall 2010, Fall 2011) – Instructor: Prof. Cheng Jiun Yuan (CUHK)

References

Available upon request.