Jinsheng Ba

ETH Zürich

Personal Website | GitHub | Google Scholar

Email: jinsheng.ba@inf.ethz.ch

WORK EXPERIENCE

ETH Zürich
Sep 2024 – Now
Postdoctoral Researcher
Zurich, Switzerland

Huawei
Jul 2017 – Dec 2019
Security Engineer
Beijing, China

EDUCATION

National University of Singapore
Singapore
Ph.D. in Computer Science
Jan 2020 – Aug 2024
Advisor: Manuel Rigger

Shandong University
Shandong, China
B.Eng. in Computer Science
Sep 2013 – Jun 2017

SELECTED PUBLICATIONS

Keep It Simple: Testing Databases via Differential Query Plans
SIGMOD'24
Jinsheng Ba, Manuel Rigger
Proceeding of ACM Management of Data, 2024
https://github.com/sqlancer/sqlancer/issues/918

Finding Performance Issues in Database Systems Through the Lens of Cardinality Estimation
ICSE'24
Jinsheng Ba, Manuel Rigger
The 46th International Conference on Software Engineering, 2024
https://github.com/sqlancer/sqlancer/issues/822

Testing Database Engines via Query Plan Guidance
ICSE'23
Jinsheng Ba, Manuel Rigger
ACM SIGSOFT Distinguished Paper Award
The 45th International Conference on Software Engineering, 2023
https://github.com/sqlancer/sqlancer/issues/641

Efficient Greybox Fuzzing to Detect Memory Errors
ASE'22
Jinsheng Ba, Gregory J Duck, and Abhik Roychoudhury
ACM SIGSOFT Distinguished Paper Award
The 37th IEEE/ACM International Conference on Automated Software Engineering, 2022
https://github.com/bajinsheng/ReZZan

Stateful Greybox Fuzzing
SEC'22
Jinsheng Ba, Marcel Böhme, Zahra Mirzamomen, Abhik Roychoudhury
The 31st USENIX Security Symposium, 2022
https://github.com/bajinsheng/SGFuzz

TEACHING EXPERIENCE

- Head Teaching Assistant for 252-2600-05L Software Engineering Seminar (24-25 Sem 1, ETH Zurich)

- Teaching Assistant for 252-0210-00L Compiler Design (24-25 Sem 1, ETH Zurich)

- Teaching Assistant for BT2102 Data Management and Visualisation (22-23 Sem 2, NUS)

- Teaching Assistant for BT2102 Data Management and Visualisation (22-23 Sem 1, NUS)

- Teaching Assistant for CS2040 Data Structures and Algorithms (22-23 Sem 1, NUS)

Services

- Program Committee for TKDE'24.

- Program Committe for DBTEST'24 Workshop co-located with SIGMOD'24.

- Program Committee for FSE'23 Artifact Evaluation.

- Program Committee for DEBT'23 Workshop co-located with ISSTA'23.

- Program Committee for PLDI'23 Artifact Evaluation.

- Student Volunteer for FSE'22.

Awards

- Singapore Open Research Award Winner. (Nov 2024, Singapore)

- Dean's Graduate Research Excellence Award. (Aug 2023, NUS)

- ACM SIGSOFT Distinguished Paper Award. 10 out of 797 submissions 1.2% (Feb 2023, ICSE)

- Research Achievement Award. (Jan 2023, NUS)

- ACM SIGSOFT Distinguished Paper Award. (Oct 2022, ASE)

- Outstanding Graduate of Shandong Province. (Jun 2017, China)

- Outstanding Undergraduate Research Assistant. (Dec 2016, SDU)

- Outstanding Leader of Association in Shandong Province, the only one in SDU (Sep 2016, China)

- First Prize Scholarship of Shandong University. (Sep 2016, SDU)

- Second Prize for Microsoft Imagine Cup Contest (Jun 2015, Microsoft)

Talks

- Invited talk to LSD Lab at UC Santa Cruz: Testing Database Engines via Query Plans. (Oct 2024)

- Invited talk at Ting Su's group of East China Normal University: Stateful Greybox Fuzzing. (July 2023)

- 45th International Conference on Software Engineering: Testing Database Engines via Query Plan Guidance. (May 2023)

- Open day at School of Computing, National University of Singapore: Testing Database Engines via Query Plan Guidance. (Feb 2023)

- Seminar at Tsinghua University: Testing Database Engines via Query Plan Guidance. (Dec 2022)

- Seminar at TiDB company: Testing Database Engines via Query Plan Guidance. (Nov 2022)

- Security workshop at School of Computing, National University of Singapore: Efficient Greybox Fuzzing to Detect Memory Errors (Nov 2022)

- Software engineering workshop at School of Computing, National University of Singapore: Testing Database Engines via Query Plan Guidance. (Nov 2022)

- 37th IEEE/ACM International Conference on Automated Software Engineering: Efficient Greybox Fuzzing to Detect Memory Errors. (Oct 2022)

- 31st USENIX Security Symposium: Stateful Greybox Fuzzing. (Aug 2022)

- Mayday workshop at School of Computing, National University of Singapore: Stateful Greybox Fuzzing. (May 2022)