

WORK AND EDUCATION

ETH Zürich

Postdoctoral Researcher
Mentor: Zhendong Su

Sep 2024 – Now
Zurich, Switzerland

National University of Singapore

Ph.D. in Computer Science
Advisor: Manuel Rigger

Jan 2020 – Aug 2024
Singapore

Huawei

Research Engineer

Jul 2017 – Dec 2019
Beijing, China

Shandong University

B.Eng. in Computer Science

Sep 2013 – Jun 2017
Shandong, China

PUBLICATIONS

[1]Testing Database Engines via Query Plan Guidance

Jinsheng Ba, Manuel Rigger

The 45th International Conference on Software Engineering, 2023
<https://github.com/sqlancer/sqlancer/issues/641>

ICSE'23

ACM SIGSOFT Distinguished Paper Award
Featured in NUS SoC News(link)

[2]Efficient Greybox Fuzzing to Detect Memory Errors

Jinsheng Ba, Gregory J Duck, and Abhik Roychoudhury

The 37th IEEE/ACM International Conference on Automated Software Engineering, 2022
<https://github.com/bajinsheng/ReZZan>

ASE'22

ACM SIGSOFT Distinguished Paper Award

[3]Finding Performance Issues in Database Systems Through the Lens of Cardinality Estimation

Jinsheng Ba, Manuel Rigger

The 46th International Conference on Software Engineering, 2024
<https://github.com/sqlancer/sqlancer/issues/822>

ICSE'24

[4]Keep It Simple: Testing Databases via Differential Query Plans

Jinsheng Ba, Manuel Rigger

Proceeding of ACM Management of Data, 2024
<https://github.com/sqlancer/sqlancer/issues/918>

SIGMOD'24

[5]Towards a Unified Query Plan Representation

Jinsheng Ba, Manuel Rigger

The 41st IEEE International Conference on Data Engineering, 2025
<https://nus-test.github.io/uplan/>

ICDE'25

[6]Stateful Greybox Fuzzing

Jinsheng Ba, Marcel Böhme, Zahra Mirzamomen, Abhik Roychoudhury

The 31st USENIX Security Symposium, 2022
<https://github.com/bajinsheng/SGFuzz>

SEC'22

[7]Finding Logic Bugs in Graph-processing Systems via Graph-cutting

Qiuyang Mang, Jinsheng Ba, Pinjia He, Manuel Rigger

Proceeding of ACM Management of Data, 2025
<https://github.com/joyemang33/GSlicer>

SIGMOD'25

[8]Detecting Logic Bugs in Graph Database Management Systems via Injective and Surjective Graph Pattern Transformation

Yuancheng Jiang, Jiahao Liu, Jinsheng Ba, Roland H.C. Yap, Zhenkai Liang, Manuel Rigger

The 46th International Conference on Software Engineering, 2024
<https://github.com/YuanchengJiang/GraphGenie>

ICSE'24

SELECTED AWARDS

- PhD Thesis Award-Honorable Mentions. (Jun 2025, NUS)
- ACM SIGSOFT Distinguished Paper Award. 10 out of 797 submissions 1.2% (Feb 2023, ICSE)
- ACM SIGSOFT Distinguished Paper Award. (Oct 2022, ASE)
- Singapore Open Research Winner. (Nov 2024, Singapore)
- Dean's Graduate Research Excellence Award. (Aug 2023, NUS)
- Research Achievement Award. (Jan 2023, NUS)
- 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)

TEACHING EXPERIENCE

- Head Teaching Assistant for 252-2600-05L Software Engineering Seminar (25-26 Sem 1, ETH Zurich)
- Teaching Assistant for 252-0210-00L Compiler Design (25-26 Sem 1, ETH Zurich)
- Head Teaching Assistant for 263-2100-00L Research Topics in Software Engineering (24-25 Sem 2, ETH Zurich)
- Teaching Assistant for 252-0063-00L Data Modeling and Database (24-25 Sem 2, ETH Zurich)
- 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

- Reviewer for TODS'25.
- Program Committee for ASE'25.
- Reviewer for ACM Computing Survey'25.
- Reviewer for TOSEM'24.
- Reviewer for TSE'24.
- Reviewer for TKDE'24.
- Program Committee 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.

EXTERNAL FUNDING

- Google Cloud Research Credits, 2025