

WORK AND EDUCATION

The Chinese University of Hong Kong, Shenzhen

Assitant Professor

Aug 2026 – Now

ETH Zürich

Postdoctoral Researcher

Advisor: Zhendong Su

Sep 2024 – Jul 2026

National University of Singapore

Ph.D. in Computer Science

Advisor: Manuel Rigger

Jan 2020 – Aug 2024

PhD Thesis Award–Honorable Mention
Dean's Graduate Research Excellence Award

Huawei

Research Engineer

Jul 2017 – Dec 2019

Shandong University

B.Eng. in Computer Science

Sep 2013 – Jun 2017

Outstanding Graduate

AWARDS & RESEARCH FUNDING

- PhD Thesis Award–Honorable Mention. 4 out of the entire department. (Jun 2025, NUS)
- Singapore Open Research Winner. (Nov 2024, Singapore)
- Dean's Graduate Research Excellence Award. 10 out of the entire department. (Aug 2023, NUS)
- ACM SIGSOFT Distinguished Paper Award. Top 1%. (Feb 2023, ICSE)
- Research Achievement Award. (Jan 2023, NUS)
- ACM SIGSOFT Distinguished Paper Award. Top 2%. (Oct 2022, ASE)
- Research Scholarship. (Aug 2022–Jul 2024, NUS)
- Outstanding Graduate of Shandong Province. Top 1%. (Jun 2017, China)
- Outstanding Leader of Association. Campus-wide sole winner. (Sep 2016, China)
- First Prize Scholarship. Top 5%. (Sep 2016, China)
- Second Prize for Microsoft Imagine Cup Contest. (Jun 2015, Microsoft)
- Sole PI Funding: Google Cloud Research Credits. (July 2025, Google)

PUBLICATIONS (ALL CCF-A CONFERENCES)

[1] Testing Computation Pushdown in Distributed Database Systems

ISSTA'26

Jinsheng Ba, Zuming Jiang, Zhendong Su

The 35th ACM SIGSOFT International Symposium on Software Testing and Analysis (ISSTA), 2026

[2] Metamorphic Coverage

ISSTA'26

Jinsheng Ba, Yuancheng Jiang, Manuel Rigger

The 35th ACM SIGSOFT International Symposium on Software Testing and Analysis (ISSTA), 2026

[3] Towards a Unified Query Plan Representation

ICDE'25

Jinsheng Ba, Manuel Rigger

The 41st IEEE International Conference on Data Engineering, 2025 [PDF][Code]

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

SIGMOD'25

Qiuyang Mang, Jinsheng Ba, Pinjia He, Manuel Rigger

Proceeding of ACM Management of Data, 2025 [PDF][Code]

[5] 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 [PDF][Code]

[6] Detecting Logic Bugs in Graph Database Management Systems via Injective and Surjective Graph Pattern Transformation ICSE'24

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

The 46th International Conference on Software Engineering, 2024 [PDF][Code]

[7] Keep It Simple: Testing Databases via Differential Query Plans SIGMOD'24

Jinsheng Ba, Manuel Rigger

Proceeding of ACM Management of Data, 2024 [PDF][Code]

[8] Testing Database Engines via Query Plan Guidance ICSE'23

Jinsheng Ba, Manuel Rigger

The 45th International Conference on Software Engineering, 2023 [PDF][Code]

ACM SIGSOFT Distinguished Paper Award

Featured in NUS News [Link]

[9] Efficient Greybox Fuzzing to Detect Memory Errors ASE'22

Jinsheng Ba, Gregory J Duck, and Abhik Roychoudhury

The 37th IEEE/ACM International Conference on Automated Software Engineering, 2022 [PDF][Code]

ACM SIGSOFT Distinguished Paper Award

[10] Stateful Greybox Fuzzing USENIX SEC'22

Jinsheng Ba, Marcel Böhme, Zahra Mirzamomen, Abhik Roychoudhury

The 31st USENIX Security Symposium, 2022 [PDF][Code]

PREPRINTS

[11] Finding Performance Issues in Database Systems by Exploiting Dormant Code Paths

Jinsheng Ba, Zhendong Su

In arXiv: 2605.22992

[12] Code Semantic Zooming

Jinsheng Ba, Sverrir Thorgeirsson, Zhendong Su

In arXiv:2510.06452

[13] On the Applicability of Differential Testing for Database Management Systems

Nathee Jaywaree, Jinsheng Ba, Manuel Rigger

TEACHING EXPERIENCE

- Lecture for CSC4801 AI-assisted Software Engineering (26-27 Sem 1, CUHK-Shenzhen)
- Head Teaching Assistant for 252-2600-05L Software Engineering Seminar (25-26 Sem 1, ETH Zürich)
- Teaching Assistant for 252-0210-00L Compiler Design (25-26 Sem 1, ETH Zürich)
- Head Teaching Assistant for 263-2100-00L Research Topics in Software Engineering (24-25 Sem 2, ETH Zürich)
- Teaching Assistant for 252-0063-00L Data Modeling and Database (24-25 Sem 2, ETH Zürich)
- Guest Lecturer for 263-2815-00 Automated Software Testing (24-25 Sem 2, ETH Zürich)
- Head Teaching Assistant for 252-2600-05L Software Engineering Seminar (24-25 Sem 1, ETH Zürich)
- Teaching Assistant for 252-0210-00L Compiler Design (24-25 Sem 1, ETH Zürich)
- Teaching Assistant for BT2102 Data Management and Visualization (22-23 Sem 2, NUS)
- Teaching Assistant for BT2102 Data Management and Visualization (22-23 Sem 1, NUS)
- Teaching Assistant for CS2040 Data Structures and Algorithms (22-23 Sem 1, NUS)
- Guest Lecturer for CS6218 Advanced Topics in Software Testing (22-23 Sem 1, NUS)

SERVICES

- Program Committee Member: FSE (2026); OOPSLA (2026); ISSTA (2026); FUZZING Workshop co-located with NDSS (2026); ASE (2025); DBTEST Workshop co-located with SIGMOD (2024); DEBT Workshop co-located with ISSTA (2023)
- Journal Reviewers: ACM Computing Survey (2025); TODS (2025); TOSEM (2024); TSE (2024); TKDE (2024)
- Artifact Evaluation Committee Member: FSE (2023); PLDI (2023)
- Campus Service: Junior interviewer of ETH Zürich faculty search (2025); Member of NUS faculty search student committee (2023)
- Leadership: Organization lead of an open-source project at Google Summer of Code (2023); President of the Software Club at Shandong University (2016); Leader of Microsoft Student Partner Program, Asia (2015)
- Conference Service: Volunteer at FSE (2022)

INVITED TALKS

- LSD Lab at UC Santa Cruz: Testing Database Engines via Query Plans. Host: Lindsey Kuper. (Oct 2024)
- University of Chinese Academy of Sciences: Testing Database Engines via Query Plans. Host: Wensheng Dou. (July 2023)
- East China Normal University: Stateful Greybox Fuzzing. Host: Ting Su. (July 2023)
- Open day at NUS: Testing Database Engines via Query Plan Guidance. (Feb 2023)
- TiDB company: Testing Database Engines via Query Plan Guidance. Host: Weizhen Wang. (Nov 2022)
- Software engineering workshop at NUS: Testing Database Engines via Query Plan Guidance. Host: Umang Mathur (Nov 2022)