

Jinsheng Ba

Personal Website | [GitHub](#) | [Google Scholar](#)

National University of Singapore

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EDUCATION

National University of Singapore

Ph.D. Candidate in Computer Science

Advisor: Manuel Rigger

Singapore

Jan 2020 – June 2024 (Expected)

Shandong University

B.Eng. in Computer Science

Shandong, China

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

The 45th International Conference on Software Engineering, 2023

<https://github.com/sqlancer/sqlancer/issues/641>

ACM SIGSOFT Distinguished Paper Award

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

<https://github.com/bajinsheng/ReZZan>

ACM SIGSOFT Distinguished Paper Award

Stateful Greybox Fuzzing

SEC'22

Jinsheng Ba, Marcel Böhme, Zahra Mirzamomen, Abhik Roychoudhury

The 31st USENIX Security Symposium, 2022

<https://github.com/bajinsheng/SGFuzz>

WORK EXPERIENCE

Security Engineer

Huawei

Jul 2017 – Dec 2019

Beijing, China

- Analyze the security device log (IPS, WAF, Host-Guard, etc.) on the cloud to extract **threat intelligence** using Spark, Kafka, HBase.
- Optimize the machine learning algorithms to detect malware from dynamic execution traces and improve the recall by **13%**.
- Write virus analysis report and help customers to prevent attacks.

TEACHING EXPERIENCE

- Teaching Assistant for BT2102 Data Management and Visualisation (2022-2023 Semester 2)
- Teaching Assistant for BT2102 Data Management and Visualisation (2022-2023 Semester 1)
- Teaching Assistant for CS2040 Data Structures and Algorithms (2022-2023 Semester 1)

SERVICES

- 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.

AWARDS

- 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 at Ting Su's group of East China Normal University: Stateful Greybox Fuzzing. (July 2023, China)
- 45th International Conference on Software Engineering: Testing Database Engines via Query Plan Guidance. (May 2023, Australia)
- Open day at School of Computing, National University of Singapore: Testing Database Engines via Query Plan Guidance. (Feb 2023, Singapore)
- Seminar at Tsinghua University: Testing Database Engines via Query Plan Guidance. (Dec 2022, China)
- Seminar at TiDB company: Testing Database Engines via Query Plan Guidance. (Nov 2022, China)
- Security workshop at School of Computing, National University of Singapore: Efficient Greybox Fuzzing to Detect Memory Errors (Nov 2022, Singapore)
- Software engineering workshop at School of Computing, National University of Singapore: Testing Database Engines via Query Plan Guidance. (Nov 2022, Singapore)
- 37th IEEE/ACM International Conference on Automated Software Engineering: Efficient Greybox Fuzzing to Detect Memory Errors. (Oct 2022, USA)
- 31st USENIX Security Symposium: Stateful Greybox Fuzzing. (Aug 2022, USA)
- Mayday workshop at School of Computing, National University of Singapore: Stateful Greybox Fuzzing. (May 2022, Singapore)