

Zhaoyan Sun

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RESEARCH INTERESTS

I focus on autonomous database systems and intelligent data analytics. First, I work on applying AI (ML, LLM) to enhance DBMS, including learned indexes, database diagnosis, and query optimization. Second, I also focus on the design of Data+AI agents capable of autonomously handling data-related tasks. I have published papers in data management conferences and journals (SIGMOD, VLDB), with 260+ citations on Google Scholar.

EDUCATION

Tsinghua University **Aug. 2022 – Jun. 2027 (Expected)**
Ph.D. in Computer Science and Technology **Beijing, China**

Supervisor: Prof. Guoliang Li [🔗 Homepage](#)

Tsinghua University **Aug. 2018 – Jul. 2022**
Bachelor in Computer Science and Technology **Beijing, China**

SELECTED AWARDS

- 2023 - BenchCouncil Top-100 Open Source Achievement (second author)
- 2022 - Outstanding Graduate of Beijing (top 5%)
- 2022 - Excellent Graduate of Tsinghua University (top 10%)

SELECTED PUBLICATIONS

1. **Data Agent: A Holistic Architecture for Orchestrating Data+ AI Ecosystems.**
Zhaoyan Sun, Jiayi Wang, Xinyang Zhao, Jiachi Wang, Guoliang Li.
IEEE Data Engineering Bulletin (2025). In submission. [\[paper\]](#)
2. **R-Bot: An LLM-based Query Rewrite System.**
Zhaoyan Sun, Xuanhe Zhou, Guoliang Li, Xiang Yu, Jianhua Feng, Yong Zhang.
VLDB (2025). [\[paper\]](#) [\[code\]](#)
3. **D-Bot: An LLM-Powered DBA Copilot.**
Zhaoyan Sun, Xuanhe Zhou, Jianming Wu, Wei Zhou, Guoliang Li.
SIGMOD Demo (2025). [\[paper\]](#) [\[code\]](#)
4. **D-bot: Database diagnosis system using large language models.**
Xuanhe Zhou, Guoliang Li, **Zhaoyan Sun**, Zhiyuan Liu, Weize Chen, Jianming Wu, Jiesi Liu, Ruohang Feng, Guoyang Zeng.
VLDB (2024). [\[paper\]](#) [\[code \(0.6k stars\)\]](#) **BenchCouncil Top-100 Open Source Achievement**
5. **Db-gpt: Large language model meets database.**
Xuanhe Zhou, **Zhaoyan Sun**, Guoliang Li.
Data Science and Engineering (2024). [\[paper\]](#) [\[code\]](#)
6. **A learned query rewrite system.**
Xuanhe Zhou, Guoliang Li, Jianming Wu, Jiesi Liu, **Zhaoyan Sun**, Xinning Zhang.
VLDB Demo (2023). [\[paper\]](#) [\[code\]](#)
7. **Learned Index: A Comprehensive Experimental Evaluation.**
Zhaoyan Sun, Xuanhe Zhou, Guoliang Li.
VLDB (2023). [\[paper\]](#) [\[code\]](#)
8. **Learned cardinality estimation: A design space exploration and a comparative evaluation.**
Ji Sun, Jintao Zhang, **Zhaoyan Sun**, Guoliang Li, Nan Tang.
VLDB (2021). [\[paper\]](#) [\[code\]](#)

TEACHING

- 2021-2025 Introduction to Database Management System (THU/30240262), teaching assistant
- 2024-2025 C++ Programming (THU/00740043), teaching assistant