

Shizhe Liu

Ph.D. student

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Education

Ph.D. Computer Science, Nanjing University, 2021.09 - present
Supervisors: Guihai Chen (**IEEE Fellow**) and Haipeng Dai.
B.E. Software Engineering, Jilin University, GPA: 3.80, Rank: **3/353**. 2017.09 - 2021.06

Research Interests

Complex Event Processing, Time Series Data Mining, AI4DB, Probabilistic Data Structures

Researcher Profile

Shizhe Liu's research mainly focuses on complex event processing and artificial intelligence for databases (*i.e.*, AI4DB). He consistently focuses on practical and effective research, such as query optimization for databases and data-stream systems, and intelligent information retrieval. His life motto is "No pain, no gain."

Awards

1. 2024 Nanjing University Ph.D. Scholarship (First Class)
2. 2022 Nanjing University Excellent Graduate Student
3. 2021 Nanjing University Presidential Ph.D. Scholarship
4. 2019 Jilin University Undergraduate Scholarship (First Class)

Refereed Publication

1. **Shizhe Liu**, Haipeng Dai, Meng Li, Yuemeng Zhang, Shaoxu Song, Zhifeng Bao, Hancheng Wang, Xiaofeng Gao, Guihai Chen. When Complex Event Recognition Meets Cloud-Native Architectures. In *Proceedings of 42nd IEEE International Conference on Data Engineering (ICDE'26)*, 2026.
2. **Shizhe Liu**, Haipeng Dai, Shaoxu Song, Meng Li, Jingsong Dai, Rong Gu, Guihai Chen. ACER: Accelerating Complex Event Recognition via Two-Phase Filtering under Range Bitmap-Based Indexes. In *Proceedings of the 30th ACM SIGKDD Conference on Knowledge Discovery and Data Mining (KDD'24)*, 2024.
3. Lihao Wang, Wei Wang, Haipeng Dai, **Shizhe Liu**. MagSound: Magnetic Field Assisted Wireless Earphone Tracking. In *Proceedings of the ACM International Joint Conference on Pervasive and Ubiquitous Computing (UbiComp'23)*, 2023.

Under Review

1. **Shizhe Liu**, Haipeng Dai, Shaoxu Song, Meng Li, Yuemeng Zhang, Hancheng Wang, Du Zhang, Rong Gu, Guihai Chen. Accelerating Complex Event Recognition via Range Bitmap-based Indexes with Window-wise Filtering (Extension Version). Submitted to TKDE.

Service

1. **Assistant Reviewer**: KDD 2025, ICDM 2023.
2. **Teaching Assistant**
 - Fundamentals of Computer Systems (For undergraduate students, Fall 2021)
 - Distributed Networks (For graduate students, Fall 2022)
 - Introduction to Databases (For undergraduate students, Fall 2023 & 2024)