

# 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

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

## Refereed Publication

- 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.
- 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.
- 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)