

Zhiru Zhu

CONTACT INFORMATION

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EDUCATION

University of Chicago, Chicago, IL, USA

PhD student in Computer Science

Sept 2020 - Dec 2025 (expected)

- Advisor: Prof. Raul Castro Fernandez
- Research area: Data systems and data privacy

Franklin & Marshall College, Lancaster, PA, USA

B.A., Computer Science, Magna Cum Laude

Aug 2013 - May 2017

- GPA: 3.77 / 4.0. Phi Beta Kappa Honor Society

University of Edinburgh, Edinburgh, UK

Visiting student in School of Informatics

Sept 2015 - May 2016

- GPA: 3.73 / 4.0. IFSA-Butler Academic Achievement List

RESEARCH EXPERIENCE

University of Chicago, Chicago, IL, USA

Sept 2020 - Present

- Worked on paper *Controlling Dataflows with a Bolt-on Data Escrow* (in submission), where I proposed an escrow-based solution to help users gain transparency and control of their dataflows, and implemented an end-to-end prototype in the Apple ecosystem.
- Worked on paper *Making Differential Privacy Easier to Use for Data Controllers and Data Analysts using a Privacy Risk Indicator and an Escrow-Based Platform* (in submission), where I designed and implemented solutions to choose the key privacy parameter and communicate utility in differential privacy.
- Worked on *Ver* (ICDE 2023), a data discovery system that identifies project-join views over large repositories of tables that do not contain join path information.
- Worked on *Data Station* (VLDB 2022), a data escrow that enables the formation of data-sharing consortia through delegated, trustworthy, and auditable computation.

New York University, New York, NY, USA

Jul 2017 - May 2018

- Research on answering incremental package query that satisfies constraints collectively in large-scale database systems. (Advisor: Prof. Azza Abouzied, Prof. Alexandra Meliou)

Franklin & Marshall College, Lancaster, PA, USA

May 2016 - May 2017

- Research on model-based reinforcement learning algorithms in the Atari 2600 domain and explored sparse methods to address scaling challenges. (Advisor: Prof. Erin Talvitie)

WORKING EXPERIENCE

ZILLIZ, Shanghai, China

Software Engineer

Feb 2019 - May 2020

- Core developer and founding member of the open-source vector database, Milvus. Designed and implemented multiple system components, including query indexing methods, memory manager, meta manager, Python and Java SDK, tracing module, and compilation pipeline.
- Developed query optimizer of a GPU-accelerated OLAP database based on PostgreSQL.

PAPERS

In submission (available in arxiv):

- **Zhiru Zhu**, Raul Castro Fernandez. *Controlling Dataflows with a Bolt-on Data Escrow*.
- **Zhiru Zhu**, Raul Castro Fernandez. *Making Differential Privacy Easier to Use for Data Controllers and Data Analysts using a Privacy Risk Indicator and an Escrow-Based Platform*.

Published:

- Kevin Dharmawan, Chirag A Kawediya, Yue Gong, Zaki Indra Yudhistira, **Zhiru Zhu**, Sainyam Galhotra, Adila Krisnadhi, Raul Castro Fernandez. *Demonstration of Ver: View Discovery in the Wild*. **SIGMOD** 2024
- Yue Gong*, **Zhiru Zhu***, Sainyam Galhotra, and Raul Castro Fernandez. *Ver: View Discovery in the Wild*. **ICDE** 2023 (* equal contribution)
- Siyuan Xia, **Zhiru Zhu**, Chris Zhu, Jinjin Zhao, Kyle Chard, Aaron Elmore, Ian Foster, Michael Franklin, Sanjay Krishnan, Raul Castro Fernandez. *Data Station: Delegated, Trustworthy, and Auditable Computation to Enable Data-Sharing Consortia with a Data Escrow*. **VLDB** 2022

TEACHING

Teaching Assistant:

- *DATA 25900: Ethics, Fairness, Responsibility, and Privacy in Data Science* (Spring 2021, 2022, 2023)
- *CMSC 14100: Introduction to Computer Science I* (Winter 2024)
- *MPCS 53001: Databases* (Spring 2024)

Lecture:

- Gave a lecture about *Statistical Data Privacy* in DATA 25900, Spring 2024

LANGUAGES

C++, Java, Python, Swift