Yiwei ZHAO | 赵奕炜

Curriculum Vitae

Carnegie Mellon University
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Last modified in June 2024

RESEARCH INTERESTS

Algorithms & Data Structures (Mathematical Foundation & Complexity Theory); Computer System Design.

EDUCATION

Carnegie Mellon University, Pittsburgh, Pennsylvania, 2021-present.

- Ph.D. candidate.
- Primary Advisor: Prof. Phillip B. Gibbons.

Tsinghua University, Beijing, China, 2017-2021.

- B.E. in Electronic Engineering. Graduated summa cum laude.
- Double major in Economics & Finance.
- **Overall GPA**: 3.9/4.0 **Ranking**: Top 3%

HONORS & AWARDS

- Lee-Stanziale Ohana Fellowship (2024 - present).
- Qualcomm PhD Fellowship Finalist (2024).
- Best Paper Runner-up, VLDB (2023) [3].
- IBM PhD Fellowship Finalist (2023).
- Excellence Honor for Undergraduate, Tsinghua University & Beijing (2021).
- Shuping Fellowship for Undergrads (2017 - 2021).
- Tsinghua University Fellowship for Undergrads (2017 - 2021).
- Second Prize in the 35th China Regional College Student Physics Contest, Beijing Physical Society (2018).

RESEARCH EXPERIENCE

Carnegie Mellon University (Graduate Research Assistant), Pittsburgh, PA, August 2021 – present.

- Advisor: Phillip B. Gibbons.
- Research Topics: Algorithms & Data Structures; Computer System Design.

University of Maryland (Research Collaborator), College Park, MD, October 2022 – present.

- Advisor: Laxman Dhulipala.
- Research Topic: Algorithms & Data Structures.

Meta Reality Lab (Research Scientist Intern), Redmond, WA, May 2023 – November 2023.

- Host: Ziyun Li.
- Research Topic: AR/VR Glasses.

Massachusetts Institute of Technology (Research Assistant), Cambridge, MA, June 2020 – November 2020.

- Advisor: Julian Shun.
- Research Topic: Algorithms & Data Structures.

PUBLICATIONS

Full Publications

[1] Hongbo Kang, **Yiwei Zhao**, Guy E. Blelloch, Laxman Dhulipala, Yan Gu, Charles McGuffey, and Phillip B. Gibbons. 2023. "**PIM-trie: A Skew-Resistant Trie for Processing-in-Memory**". In Proceedings of the 35th ACM Symposium on Parallelism in Algorithms and Architectures (**SPAA** '23). Association for Computing Machinery, New York, NY, USA, pp. 1–14. doi:10.1145/3558481.3591070.

[2] Zeyan Li, Junjie Chen, Yihao Chen, Chengyang Luo, **Yiwei Zhao**, Yongqian Sun, Kaixin Sui, Xiping Wang, Dapeng Liu, Xing Jin, Qi Wang, and Dan Pei. 2023. "**Generic and Robust Root Cause Localization for Multi-Dimensional Data in Online Service Systems**". In Journal of Systems and Software (**JSS**), Vol. 203, (2023), 111748. doi:10.1016/j.jss.2023.111748.

[3] Hongbo Kang, **Yiwei Zhao**, Guy E. Blelloch, Laxman Dhulipala, Yan Gu, Charles McGuffey, and Phillip B. Gibbons. 2022. "**PIM-tree: A Skew-resistant Index for Processing-in-Memory**". In Proceedings of the VLDB Endowment (**PVLDB**), 16(4): 946-958, December 2022. doi:10.14778/3574245.3574275. arXiv:2211.10516. ***Best Research Paper Runner-up in VLDB 2023***.

[4] Zeyan Li, Chengyang Luo, **Yiwei Zhao**, Yongqian Sun, Kaixin Sui, Xiping Wang, Dapeng Liu, Xing Jin, Qi Wang, and Dan Pei. 2019. "**Generic and Robust Localization of Multi-Dimensional Root Cause**". In the 30th International Symposium on Software Reliability Engineering (**ISSRE** '19). Oct. 28-31, 2019, Berlin. doi:10.1109/ISSRE.2019.00015.

Short Publications

[5] Hongbo Kang, **Yiwei Zhao**, Guy E. Blelloch, Laxman Dhulipala, Yan Gu, Charles McGuffey, and Phillip B. Gibbons. 2023. "**PIM-tree: A Skew-resistant Index for Processing-in-Memory (Abstract)**". In Proceedings of the 2023 ACM Workshop on Highlights of Parallel Computing (**HOPC** '23), June 16, 2023, Orlando, FL, USA. doi:10.1145/3597635.3598029.

TEACHING EXPERIENCES

- **18-751 Applied Stochastic Processes**: Teaching Assistant, Fall 2024, CMU.
- **18-742 Computer Architecture and Systems**: Teaching Assistant, Spring 2024, CMU.

SKILLS

- **Programming Languages**: C/C++, Java, Python, Shell Scripting, and Assembly.
- **Software Development Tools**: MATLAB, Git, SQL, and R.
- **Hardware Design Tools**: Verilog (HDL), Gem5, McPAT, ZSim, Multisim, and ADS.
- **Other Software Tools**: Mathematica, Latex, AutoCAD, and Stata.