

CONTACT INFORMATION	Computer Science Department Boston University CDS 925D, 665 Commonwealth Ave Boston, MA 02215 E-mail: zczhu@bu.edu Website: https://cs-people.bu.edu/zczhu	
RESEARCH INTERESTS	Databases, Data Management and Data systems.	
EDUCATION	Ph.D. in Computer Science, Boston University, Massachusetts, USA.	2019 - Present
	MPhil in Computer Science, the University of Hong Kong (HKU). Thesis: “Effective and Efficient Discovery of Top-k Meta Path in Heterogeneous Information Networks”	2017 - 2019
	B.Sc. in Software Engineering, Tsinghua University.	2013 - 2017
PROFESSIONAL EXPERIENCE	<ul style="list-style-type: none"> • PhD Researcher at Boston University Sept 2019 - Present • Software Engineering Intern at Google Cloud June 2023 - Sept 2023 • Software Engineering Intern at RocksDB, Meta May 2022 - Aug 2022 • Research Intern at DASLab SEAS, Harvard July 2018 - Oct 2018 • System Engineer Intern at Weibo Corporation June 2017 - Aug 2017 	
ACADEMIC SERVICE AND AWARD	<ul style="list-style-type: none"> • ACM SIGMOD Student Travel Award 2022 • ACM SIGMOD Availability Committee 2021 • Online student volunteer in VLDB 2020 • Committee member in ICTAI 2021 • Student volunteer in BDAI Workshop, HKU, 2019 • External reviewer of WISE2020, ER2019, CIKM2018, DASFAA2018, DASFAA2022, DASFAA2023, CIKM2023, ICDE2024 	
PUBLICATIONS	<ol style="list-style-type: none"> 1. Zichen Zhu, Xiao Hu, Manos Athanassoulis. <i>NOCAP: Near-Optimal Correlation-Aware Partitioning Joins</i>, SIGMOD, 2024 2. Zichen Zhu. <i>SHaMBa: Reducing Bloom Filter Overhead in LSM Trees</i>, PhD Workshop in VLDB, 2023 3. Subhadeep Sarkar, Tarikul Islam Papon, Zichen Zhu, Dimitris Staratzis, Manos Athanassoulis. <i>Enabling Timely and Persistent Deletion in LSM-Engines</i>, ACM Transactions on Database Systems (TODS), 2023 4. Siqiang Luo*, Zichen Zhu*, Xiaokui Xiao, Yin Yang, Chunbo Li, Ben Kao. (* Equal Contribution). <i>Multi-Task Processing in Vertex-Centric Graph Systems: Evaluations and Insights</i>, EDBT, 2023 5. Ju Hyoung Mun, Zichen Zhu, Aneesh Raman, Manos Athanassoulis. <i>LSM-Tree Under (Memory) Pressure</i>, Proceedings of the International Workshop on Accelerating Data Management Systems Using Modern Processor and Storage Architectures (ADMS), 2022 	

6. Manos Athanassoulis, Subhadeep Sarkar, Tarikul Islam Papon, **Zichen Zhu**, Dimitris Staratzis. *Building Deletion-Compliant Data Systems*, IEEE Data Engineering Bulletin (DEBull), 2022
7. Subhadeep Sarkar, Dimitris Staratzis, **Zichen Zhu**, Manos Athanassoulis. *Constructing and Analyzing the LSM Compaction Design Space*, In Proceedings of the VLDB Endowment, Vol. 14(11), 2021.
8. **Zichen Zhu**, Ju Hyoung Mun, Aneesh Raman, Manos Athanassoulis. *Reducing Bloom Filter CPU Overhead in LSM-Trees on Modern Storage Devices*, In Proceedings of the International Workshop on Data Management on New Hardware (DaMoN), 2021.
9. **Zichen Zhu**, Tsz Nam Chan, Reynold Cheng, Loc Do, Zhipeng Huang, Hoaci Zhang. *Effective and Efficient Discovery of Top-k Meta Paths in Heterogeneous Information Networks*, In IEEE Transactions on Knowledge and Data Engineering, doi: 10.1109/TKDE.2020.3037218.
10. Stratos Idreos, Niv Dayan, Wilson Qin, Mali Akmanalp, Sophie Hilgard, Andrew Ross, James Lennon, Varun Jain, Harshita Gupta, David Li, **Zichen Zhu**. *Design Continuums and the Path Toward Self-Designing Key-Value Stores that Know and Learn*, Conference on Innovative Data Systems Research (CIDR), 2019.
11. **Zichen Zhu**, Reynold Cheng, Loc Do, Zhipeng Huang, Hoaci Zhang. *Evaluating Top-k Meta Path Queries on Large Heterogeneous Information Networks*, In Proceedings of the International Conference on Data Mining (ICDM), 2018.

DEMOS

1. **Zichen Zhu**, Subhadeep Sarkar, Manos Athanassoulis. *Acheron: Persisting Tombstones in LSM Engines*, In Proceedings of the ACM SIGMOD International Conference on Management of Data, Demonstration track, 2023
2. Subhadeep Sarkar, Kaijie Chen, **Zichen Zhu**, Manos Athanassoulis. *Compactionary: A Dictionary for LSM compactions*, In Proceedings of the ACM SIGMOD International Conference on Management of Data, Demonstration track, 2022
3. **Zichen Zhu**, Siqiang Luo, Xiaokui Xiao, Yin Yang, Dingheng Mo, Yufei Han. *VC-Tune: Tuning and Exploring Distributed Vertex-Centric Graph Systems*, IEEE International Conference on Data Engineering (ICDE), Demonstration Track, 2022.

TEACHING EXPERIENCE (SELECTED)

Boston University (Teaching Fellow)	2019 - Present
• CS 561 (Data Systems Architectures)	Spring 2022, 2023
• CS 660 (Graduate Introduction to Database Systems)	Fall 2020, Fall 2021, Fall 2023
• CS 460 (Introduction to Database Systems)	Spring 2021
• CS 237 (Probability in Computing)	Spring 2020
• CS 105 (Introduction to Databases and Data Mining)	Fall 2019
University of Hong Kong	2017 - 2019
• CCST9047 (The Age of Big Data)	Spring 2018
• CCST9047 (The Age of Big Data)	Spring 2019

MPHIL THESIS **Zichen Zhu.** *Effective and Efficient Discovery of Top-k Meta Path in Heterogeneous Information Networks*, MPhil Thesis, 2019, Department of Computer Science, University of Hong Kong. (under the supervision of Dr. Reynold Cheng)

I worked on effective and efficient discovery of top-k meta paths under the supervision of Dr. Reynold Cheng, Professor, Department of Computer Science, the University of Hong Kong. In this work, I observe that the shortest meta path between two nodes cannot identify the most representative relation and I propose a ranking function that seamlessly integrates existing ranking functions into a multi-step searching framework and I combine bidirectional searching with this framework to further boost the searching efficiency.

TECHNICAL
SKILLS

- **Programming Languages:** C, C++, Java, Python, JavaScript
- **Markup Languages:** HTML, XML, L^AT_EX
- **Database Management Systems:** RocksDB, MongoDB, MySQL, PostgreSQL
- **Web Development:** Django, Flask, CodeIgniter

LAST UPDATE: Sept 2023