

JIARUI GUO

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EDUCATION

Peking University	Beijing, China
Ph.D. in Computer Science	Sept. 2023 – Present
Peking University	Beijing, China
B.Sc in Computer Science & Mathematics	Sept. 2019 – Jun. 2023

WORKING EXPERIENCE

Aicheng Technology, Alibaba Group	Beijing, China
Research Intern, LLM Inference	Oct. 2025 – Present
ByteDance	Beijing, China
Research Intern, Network Infrastructure	Aug. 2025 – Oct. 2025
Infinigence AI	Beijing, China
Research Intern, System Communication	Dec. 2024 – Apr. 2025
Baichuan AI	Beijing, China
Research Intern, LLM Inference Scheduling & Quantization	Apr. 2024 – Dec. 2024
Theory Lab, Huawei Technologies	Hong Kong SAR, China
Research Intern (Remote), LLM Mixed-Precision Training	Sept. 2023 – Apr. 2024

PUBLICATIONS

HourglassSketch: An Efficient and Scalable Framework for Graph Stream Summarization
<i>Jiarui Guo, Boxuan Chen, Kaicheng Yang, Tong Yang, Zirui Liu, Qiuhe Yin, Sha Wang, Yuhan Wu, Xiaolin Wang, Bin Cui, Tao Li, Xi Peng, Renhai Chen, Gong Zhang</i>
2025 IEEE 41st International Conference on Data Engineering (ICDE '25). May. 2025

CuckooGraph: A Scalable and Space-Time Efficient Data Structure for Large-Scale Dynamic Graphs
<i>Zhuochen Fan, Yalun Cai, Zirui Liu, Jiarui Guo, Xin Fan, Tong Yang, Bin Cui</i>
2025 IEEE 41st International Conference on Data Engineering (ICDE '25). May. 2025

SteadySketch: A High-Performance Algorithm for Finding Steady Flows in Data Streams
<i>Zhuochen Fan, Xiangyuan Wang, Xiaodong Li, Jiarui Guo, Wenrui Liu, Haoyu Li, Sheng Long, Zheng Zhong, Tong Yang, Xuebin Chen, Bin Cui</i>
IEEE/ACM Transactions on Networking (ToN). Aug. 2024

Enabling Space-Time Efficient Range Queries with REncoder
<i>Zhuochen Fan, Bowen Ye, Ziwei Wang, Zheng Zhong, Jiarui Guo, Yuhan Wu, Haoyu Li, Tong Yang, Yaofeng Tu, Zirui Liu, Bin Cui</i>
The International Journal on Very Large Data Bases (VLDBJ). Aug. 2024

SketchPolymer: Estimate Per-item Tail Quantile Using One Sketch
<i>Jiarui Guo, Yisen Hong, Yuhan Wu, Yunfei Liu, Tong Yang, Bin Cui</i>
Proceedings of the 28th ACM SIGKDD Conference on Knowledge Discovery and Data Mining (KDD '23). Aug. 2023

SteadySketch: Finding Steady Flows in Data Streams
<i>Xiaodong Li, Zhuochen Fan, Haoyu Li, Zheng Zhong, Jiarui Guo, Sheng Long, Tong Yang, Bin Cui</i>
2023 IEEE/ACM 31st International Symposium on Quality of Service (IWQoS '23). Jun. 2023

PISketch: Finding Persistent and Infrequent Flows

Zhuochen Fan, Zhoujing Hu, Yuhan Wu, **Jiarui Guo**, Sha Wang, Wenrui Liu, Tong Yang, Yaofeng Tu, Steve Uhlig
IEEE/ACM Transactions on Networking (ToN). May. 2023

Finding Simplex Items in Data Streams

Zhuochen Fan, **Jiarui Guo**, Xiaodong Li, Tong Yang, Yikai Zhao, Yuhan Wu, Bin Cui, Yanwei Xu, Steve Uhlig, Gong Zhang
2023 IEEE 39th International Conference on Data Engineering (ICDE '23). Apr. 2023

REncoder: A Space-Time Efficient Range Filter with Local Encoder

Ziwei Wang, Zheng Zhong, **Jiarui Guo**, Yuhan Wu, Haoyu Li, Tong Yang, Yaofeng Tu, Huachen Zhang, Bin Cui
2023 IEEE 39th International Conference on Data Engineering (ICDE '23). Apr. 2023

BurstSketch: Finding Bursts in Data Streams

Ruijie Miao, Zheng Zhong, **Jiarui Guo**, Zikun Li, Tong Yang, Bin Cui
IEEE Transactions on Knowledge and Data Engineering (TKDE). Nov. 2022

PISketch: Finding Persistent and Infrequent Flows

Zhuochen Fan, Zhoujing Hu, Yuhan Wu, **Jiarui Guo**, Wenrui Liu, Tong Yang, Hengrui Wang, Yifei Xu, Steve Uhlig,
Yaofeng Tu

Proceedings of the ACM SIGCOMM 2022 Workshop on Formal Foundations and Security of Programmable Network
Infrastructures (FFSPIN '22). Aug. 2022