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Education:

- 2004.9 — 2009.7 **Doctor of Engineering, Computer Science and Technology**
Department of Computer Science, **Tsinghua University**, Beijing, China
- 2000.9 — 2004.7 **Bachelor Degree, Computer Science and Technology**
Department of Computer Science, **Harbin Institute of Technology**, Harbin, China

Experience:

- 2018.12—Now **Professor**, Dept. of Computer Science, Tsinghua University
- 2012.12—2018.11 **Associate Professor**, Dept. of Computer Science, Tsinghua University
- 2009.7—2012.11 **Assistant Professor**, Dept. of Computer Science, Tsinghua University
- 2017.9--2018.8 Visiting Professor, MIT (Profs. Michael Stonebraker, Sam Madden)
- 2008.1--2008.6 Visitor, University of California, Irvine (Prof. Chen Li)
- 2006.4--2006.11 Visitor, National University of Singapore (Prof. Beng Chin Ooi)

Research Interests: Data Quality, Database Systems, Data Cleaning and Integration

Awards:

- **2024 SIGMOD Research Highlight Award**
- **2023 VLDB Industry Best Paper Runner-up**
- **2023 Best of SIGMOD 2023**
- **2023 DASFAA Best Paper Award**
- **2022 IEEE Fellow**
- **2017 VLDB Early Research Contribution Award**
- **2014 IEEE TCDE (Technical Committee on Data Engineering) Early Career Award**
- **2017 CIKM Best Paper Award**
- **2020 Best of VLDB 2020**
- **2018 Best of ICDE 2018**
- **2018 Best of KDD 2018**
- **2014 DASFAA Best Paper Runner-up**
- **2014 APWeb Best Paper**
- **2013 EDBT Champion on Big Data Integration**



Professional Services:

- Journal Associate Editors:
 - IEEE TKDE 2014-2022
 - VLDB Journal 2018-2023
 - ACM JDIQ 2019-Now
- PC Member:
 - SIGMOD 2014, 2015, 2016, 2017, 2018,2019,2020,2021,2022,2023,2024
 - VLDB: 2012, 2013, 2014, 2015,2016,2017, 2018,2019,2020,2021,2022,2023,2024
 - ICDE: 2012, 2013, 2014, 2015,2016, 2017, 2018,2019,2020,2021,2022,2023,2024
 - KDD: 2012, 2013, 2014, 2015,2016,2019,2020,2021,2022,2023,2024
- Chairs:
 - PC Co-Chair: WAIM 2014, WebDB2014, DASFAA 2019
 - SIGMOD 2021 General Co-Chair
 - VLDB 2021 Demo Co-Chair
 - ICDE 2022 Industry Co-Chair
 - ICDE 2025 Data Engineering Future Technologies Co-Chair
 - SIGMOD 2023 Tutorial Co-Chair

Publications:

➤ Journal Papers:

1. Yang Wu, Xuanhe Zhou, Yong Zhang, **Guoliang Li**. Automatic Index Tuning: A Survey. **TKDE**, 2024.
2. Chao Zhang, **Guoliang Li**, Jintao Zhang, Xinning Zhang, Jianhua Feng. HTAP Databases: A Survey. **TKDE**, 2024.
3. Haowen Dong, Chao Zhang, **Guoliang Li**, Huanchen Zhang. Cloud-Native Databases: A Survey, Fellow, **IEEE TKDE**, 2024.
4. Jiayi Wang, Chengliang Chai, Jiabin Liu, **Guoliang Li**: Cardinality estimation using normalizing flow. **VLDB J.** 33(2): 323-348, 2024
5. Tongyu Liu, Ju Fan, **Guoliang Li**, Nan Tang, Xiaoyong Du: Tabular data synthesis with generative adversarial networks: design space and optimizations. **VLDB J.** 33(2): 255-280, 2024
6. Chengliang Chai, Jiayi Wang, Yuyu Luo, Zeping Niu, **Guoliang Li**: Data Management for Machine Learning: A Survey. **IEEE TKDE.** 35(5): 4646-4667, 2023
7. Shuang Hao, Chengliang Chai, **Guoliang Li**, Nan Tang, Ning Wang, Xiang Yu: HOFD: An Outdated Fact Detector for Knowledge Bases. **IEEE TKDE.** 35(10): 10775-10789, 2023
8. Xinyang Zhao, Xuanhe Zhou, **Guoliang Li**: Automatic Database Knob Tuning: A Survey. **IEEE TKDE** 35(12): 12470-12490, 2023
9. Yue Han, **Guoliang Li**, Haitao Yuan, Ji Sun. AutoView: An Autonomous Materialized View Management System with Encoder-Reducer. **TKDE** 2022.
10. Yong Wang, Kaiyu Li, **Guoliang Li**, Nan Tang. Road-Aware Indexing for Trajectory Range Queries. **TKDE** 2022.
11. Xuedi Qin, Chengliang Chai, Yuyu Luo, Tianyu Zhao, Nan Tang, **Guoliang Li**, Xiang Yu, Mourad Ouzzani. Interactively discovering and ranking desired tuples by data exploration. **VLDB Journal** 2022.



12. Ji Zhang, Ke Zhou, **Guoliang Li**, Yu Liu, Ming Xie, Bin Cheng, Jiashu Xing. CDBTune+: An efficient deep reinforcement learning-based automatic cloud database tuning system. **VLDB J.** 30(6): 959-987 (2021).
13. Shuang Hao, Nan Tang, **Guoliang Li**, Jianhua Feng, Ning Wang. Mis-categorized entities detection. **VLDB J.** 30(4): 515-536 (2021).
14. Caihua Shan, Nikos Mamoulis, **Guoliang Li**, Reynold Cheng, Zhipeng Huang, Yudian Zheng. A Crowdsourcing Framework for Collecting Tabular Data. *IEEE Transactions on Knowledge and Data Engineering (TKDE)* 2020
15. Chengliang Chai, **Guoliang Li**, Ju Fan, Yuyu Luo. CrowdChart: Crowdsourced Data Extraction from Visualization Charts. *IEEE Transactions on Knowledge and Data Engineering (TKDE)* 2020.
16. Yuyu Luo, Xuedi Qin, Nan Tang, **Guoliang Li**, Chengliang Chai. Steerable Self-driving Data Visualization. *IEEE Transactions on Knowledge and Data Engineering (TKDE)* 2020
17. Xuanhe Zhou, Chengliang Chai, Guoliang Li, Ji Sun. Database Meets AI: A Survey. *IEEE Transactions on Knowledge and Data Engineering (TKDE)* 28(9): 2296-2319 (2020)
18. Kaiyu Li, Yong Zhang, Guoliang Li, Wenbo Tao, Ying Yan. Bounded Approximate Query Processing. *IEEE Transactions on Knowledge and Data Engineering (TKDE)* 28(9): 2296-2319 (2018)
19. Chengliang Chai, **Guoliang Li**, Jian Li, Dong Deng, Jianhua Feng. A Partial-Order-Based Framework for Cost-Effective Crowdsourced Entity Resolution. **VLDB Journal** 27(2): 249-274 (2018)
20. Shuang Hao, Nan Tang, **Guoliang Li**, Jianhua Feng. Distilling Relations using Knowledge Bases. **VLDB Journal** 26(2): 249-274 (2018)
21. Na Ta, **Guoliang Li**, Tianyu Zhao, Jianhua Feng, Hanchao Ma, Zhiguo Gong. An Efficient Ride-Sharing Framework for Maximizing Shared Route. *IEEE Transactions on Knowledge and Data Engineering (TKDE)* 30(2): 219-233 (2018)
22. Shuang Hao, Nan Tang, **Guoliang Li**, Na Ta, Jianhua Feng. A Novel Cost-Based Model for Data Repairing. *IEEE Transactions on Knowledge and Data Engineering (TKDE)*, 2017.
23. Na Ta, **Guoliang Li**, Jianhua Feng. Signature-Based Trajectory Similarity Join. *IEEE Transactions on Knowledge and Data Engineering (TKDE)*, 2017.
24. Minghe Yu, Jin Wang, **Guoliang Li**, Yong Zhang, Dong Deng, Jianhua Feng. A unified framework for string similarity search with edit-distance constraint. **The VLDB Journal**, 2017
25. **Guoliang Li**, Jiannan Wang, Yudian Zheng, Michael Franklin. Crowdsourced Data Management: A Survey. **IEEE Transactions on Knowledge and Data Engineering (TKDE)**, 2016
26. Shuang Hao, Nan Tang, Guoliang Li, Na Ta, Jianhua Feng. A Novel Cost-Based Model for Data Repairing. **IEEE Transactions on Knowledge and Data Engineering (TKDE)**, 2017
27. Na Ta, Guoliang Li, Jianhua Feng. Signature-Based Trajectory Similarity Join. **IEEE Transactions on Knowledge and Data Engineering (TKDE)**, 2017
28. Zeyuan Shang, Yaxiao Liu, **Guoliang Li**, Jianhua Feng. K-Join: Knowledge-Aware Similarity Join. **IEEE Transactions on Knowledge and Data Engineering (TKDE)**, 2016



29. Huiqi Hu, Guoliang Li, Zhifeng Bao, Jianhua Feng, Zhiguo Gong. Topk Spatio-Textual Similarity Join. **IEEE Transactions on Knowledge and Data Engineering (TKDE)**, 2016
30. Dong Deng, **Guoliang Li**, Jianhua Feng, Zhiguo Gong. A Unified Framework for Approximate Dictionary-based Entity Extraction. **VLDB Journal**, 24(1):143-167 (2015)
31. Huiqi Hu, **Guoliang Li**, Zhifeng Bao, Jianhua Feng, Zhiguo Gong. Topk Spatio-Textual Similarity Join. **IEEE Transactions on Knowledge and Data Engineering (TKDE)**, 2015
32. Ruicheng Zhong, **Guoliang Li**, Kian-lee Tan, Lizhu Zhou, Zhiguo Gong. G-Tree: An Efficient and Scalable Index for Spatial Search on Road Networks. **IEEE Transactions on Knowledge and Data Engineering (TKDE)**, 2015
33. Minghe Yu, **Guoliang Li**, Ting Wang, Jianhua Feng, **Zhiguo Gong**. Efficient Filtering Algorithms for Location-Aware Publish/Subscribe. **IEEE Transactions on Knowledge and Data Engineering (TKDE)**, 27(4):950-963 (2015)
34. Jiannan Wang, **Guoliang Li**, Jianhua Feng. Extending String Similarity Join to Tolerant Fuzzy Token Matching. **ACM Transactions on Database Systems (TODS)**, 46(3):1-35 2014.
35. Dongzhe Ma, Jianhua Feng, **Guoliang Li**. A Survey of Address Translation Technologies for Flash Memories. **ACM Computing Surveys**, 39 (1) :1-30, 2014.
36. Weiwei Hu, **Guoliang Li**, Jiakai Ni, Dalie Sun, Kian-lee Tan. Bp-tree: A Predictive B+-tree for Reducing Writes on Phase Change Memory. **IEEE Transactions on Knowledge and Data Engineering (TKDE)**, 26(10): 2368-2381, 2014.
37. Sitong Liu, **Guoliang Li**, Jianhua Feng. A Prefix-Filter based Method for Spatio-Textual Similarity Join. **IEEE Transactions on Knowledge and Data Engineering (TKDE)**, 26(10): 2354-2367, 2014.
38. Jiakai Ni, **Guoliang Li**, Lijun Wang, Jianhua Feng. Adaptive Database Schema Design for Multi-Tenant Data Management. **IEEE Transactions on Knowledge and Data Engineering (TKDE)**, 26(9): 2079-2093, 2014.
39. **Guoliang Li**, Dong Deng, Jianhua Feng. Pass-Join+: A Partition-based Method for String Similarity Joins with Edit-Distance Constraints. **ACM Transactions on Database Systems (ACM TODS)**, 38(2):9-40, 2013.
40. **Guoliang Li**, Jianhua Feng, Chen Li. Supporting Search-As-You-Type Using SQL in Databases. **IEEE Transactions on Knowledge and Data Engineering (TKDE)**, 25(2): 461-475 (2013).
41. Yang Cao, Ju Fan, **Guoliang Li**: A User-Friendly Patent Search Paradigm **IEEE Transactions on Knowledge and Data Engineering. (TKDE)** 25(6):1439-1443 (2013)
42. Jianhua Feng, Jiannan Wang, **Guoliang Li**. Trie-join: a trie-based method for efficient string similarity joins. **The VLDB Journal**, 21(4):437-461, 2012
43. Jianhua Feng, **Guoliang Li**: Fuzzy Type-Ahead Search in XML Data. **IEEE Transactions on Knowledge and Data Engineering (TKDE)**, 24(5):882-895, 2012.
44. **Guoliang Li**, Jianhua Feng, Jianyong Wang, Lizhu Zhou: KEMB: A Keyword-Based XML Message Broker. **IEEE Transactions on Knowledge and Data Engineering (TKDE)** 23(7):1035-1049 (2011)
45. **Guoliang Li**, Shengyue Ji, Chen Li, Jianhua Feng. Efficient Fuzzy Full-Text Type-Ahead Search. **The VLDB Journal**, 20(4): 617-640, 2011.



46. **Guoliang Li**, Jianhua Feng, Xiaofang Zhou, Jianyong Wang. Providing Built-in Keyword Search Capabilities in RDBMS. **The VLDB Journal**, 20(1):1-19, 2011.
47. Jianhua Feng, **Guoliang Li**, Jianyong Wang: Finding Top-k Answers in Keyword Search over Relational Databases Using Tuple Units. **IEEE Transactions on Knowledge and Data Engineering (TKDE)**, 23(12):1781-1794 (2011)
48. **Guoliang Li**, Jianhua Feng, Beng Chin Ooi, Jianyong Wang, and Lizhu Zhou. An effective 3-in-1 keyword search method over heterogenous data sources. **Information Systems**, Volume 36, Issue 2, Pages 248-266, 2011.
49. Jiannan Wang, Inci Cetindil, Shengyue Ji, Chen Li, Xiaohui Xie, **Guoliang Li**, and Jianhua Feng. Interactive and fuzzy search: a dynamic way to explore MEDLINE. **Bioinformatics (2010) 26(18)**: 2313-2320.
50. Jianhua Feng, **Guoliang Li**, Lizhu Zhou: Finding and Ranking Compact Connected Trees for Effective Keyword Proximity Search over XML Documents. **Information Systems**, Volume 35, Issue 2, Pages 186-203, 2010.
51. **Guoliang Li**, Jianhua Feng, Jianyong Wang, and Lizhu Zhou. Incremental sequence-based frequent query pattern mining from xml queries. **Data Mining and Knowledge Discovery**, Volume 18, Number 3, pages 472-516, 2009.
52. **Guoliang Li**, Jianhua Feng, Chen Li, Lizhu Zhou: SAIL: Structure-aware Indexing for Effective Keyword Search over XML Documents. **Information Sciences**, Volume 179, Issue 21, Pages 3745-3762, 2009.

➤ **Conference Papers (Full Research Papers)**

1. Jintao Zhang, **Guoliang Li**, Chao Zhang, Chengliang Chai. PACE: Poisoning Attacks on Learned Cardinality Estimation. **SIGMOD 2024**.
2. Yihang Zheng, Chen Lin, Xian Lyu, Xuanhe Zhou, **Guoliang Li**, Tianqing Wang. Robustness of Updatable Learning-based Index Advisors. **SIGMOD 2024**.
3. Tongyu Liu, Ju Fan, Nan Tang, **Guoliang Li**, Xiaoyong Du. Controllable Tabular Data Synthesis Using Diffusion Models. **SIGMOD 2024**.
4. Jiaming Liang, Lei Cao, Samuel Madden, Zack Ives, **Guoliang Li**. RITA: Group Attention is All You Need for Timeseries Analytics. **SIGMOD 2024**.
5. Xuanhe Zhou, **Guoliang Li**, Zhaoyan Sun, Zhiyuan Liu, Weize Chen, Jianming Wu, Jiesi Liu, Ruohang Feng, Guoyang Zeng. D-Bot: Database Diagnosis System using Large Language Models. **VLDB 2024**.
6. Yiwei Chen, Kaiyu Li, **Guoliang Li**, Yong Wang. Contributions Estimation in Federated Learning: A Comprehensive Experimental Evaluation. **VLDB 2024**.
7. Boyan Li, Yuyu Luo, Chengliang Chai, **Guoliang Li**, Nan Tang. The Dawn of Natural Language to SQL: Are We Fully Ready? **VLDB 2024**
8. Yupeng Xie, Yuyu Luo, **Guoliang Li**, Nan Tang. HAIChart: Human and AI Paired Visualization System. **VLDB 2024**
9. **Guoliang Li**, Wengang Tian, Jinyu Zhang, Ronen Grosman, Zongchao Liu, Sihao Li. GaussDB: A Cloud-Native Multi-Primary Database with Compute-Memory-Storage Disaggregation. **VLDB 2024**
10. **Guoliang Li**, Xuanhe Zhou, Xinyang Zhao. LLM for Data Management. **VLDB 2024** Tutorial.



11. Xinyang Zhao, Xuanhe Zhou, **Guoliang Li**. Chat2Data: An Interactive Data Analysis System with RAG, Vector Databases and LLMs. **VLDB** Demo 2024
12. Wei Zhou, Chen Lin, Xuanhe Zhou, **Guoliang Li**. Breaking It Down: An In-depth Study of Index Advisors. **VLDB** 2024.
13. Haitao Yuan, Gao Cong, **Guoliang Li**. Nuhuo: An Effective Estimation Model for Traffic Speed Histogram Imputation on A Road Network. **VLDB** 2024.
14. Zijia Wang, Haoran Liu, Chen Lin, Zhifeng Bao, **Guoliang Li**, Tianqing Wang. Leveraging Dynamic and Heterogeneous Workload Knowledge to Boost the Performance of Index Advisors. **VLDB** 2024.
15. Zihui Gu, Ju Fan, Songyue Zhang, Yuxin Zhang, Zui Chen, Lei Cao, **Guoliang Li**, Samuel Madden, Xiaoyong Du, Nan Tang. Combining Small Language Models and Large Language Models for Zero-Shot NL2SQL. **VLDB** 2024.
16. Chao Zhang, **Guoliang Li**, Tao Lv. HyBench: A New Benchmark for HTAP Databases. **VLDB** 2024.
17. Wei Zhou, Chen Lin, Xuanhe Zhou, **Guoliang Li**. TRAP: Tailored Robustness Assessment for Index Advisors via Adversarial Perturbation. **ICDE** 2024.
18. Yong Wang, Kaiyu Li, **Guoliang Li**, Yunyan Guo, Zhuo Wan. Fast, Robust and Interpretable Participant Contribution Estimation for Federated Learning. **ICDE** 2024.
19. Meihao Fan, Xiaoyue Han, Ju Fan, Chengliang Chai, Nan Tang, **Guoliang Li**, Xiaoyong Du. Cost-Effective In-Context Learning for Entity Resolution: A Design Space Exploration. **ICDE** 2024.
20. Yunyan Guo, **Guoliang Li**. A CXL-Powered Database System: Opportunities and Challenges. **ICDE** 2024.
21. **Guoliang Li**, Ji Sun, Lijie Xu, Shifu Li, Jiang Wang, Wen Nie. GaussML: An End-to-End In-database Machine Learning System. **ICDE** 2024.
22. Xin Tang, Chengliang Chai, **Guoliang Li**, et al. Separation Is for Better Reunion: Data Lake Storage. **ICDE** 2024
23. Yuyu Luo, Yihui Zhou, Nan Tang, **Guoliang Li**, Chengliang Chai, Leixian Shen. Learned Data-aware Image Representations of Line Charts for Similarity Search. **SIGMOD** 2023.
24. Xuanhe Zhou, **Guoliang Li**, Jianhua Feng, Luyang Liu, Guo Wei. Grep: A Graph Learning Based Database Partitioning System. **SIGMOD** 2023.
25. Chengliang Chai, Jiabin Liu, Nan Tang, Ju Fan, **Guoliang Li**. GoodCore: Coreset Selection over Incomplete Data for Data-effective and Data-efficient Machine Learning. **SIGMOD** 2023.
26. Sibe Chen, Nan Tang, Ju Fan, Xuemi Yan, Chengliang Chai, **Guoliang Li**, Xiaoyong Du. HybridPipe: Combining Human-generated and Machine-generated Pipelines for Data Preparation. **SIGMOD** 2023.
27. Weixing Zhou, Qi Peng, Zijie Zhang, Yanfeng Zhang, Yang Ren, Sihao Li, Guo Fu, **Guoliang Li**, Ge Yu. GeoGauss: Strongly Consistent Coordinator-Free OLTP for Geo-Replicated SQL Database. **SIGMOD** 2023.
28. Jianhong Tu, Ju Fan, Nan Tang, Peng Wang, **Guoliang Li**, Xiaoyong Du. Unicorn: A Unified Multi-tasking Model for Supporting Matching Tasks in Data Integration. **SIGMOD** 2023.
29. Zhaoyan Sun, Xuanhe Zhou, **Guoliang Li**. Learned Index: A Comprehensive Experimental Evaluation. **VLDB** 2023.



30. Haitao Yuan, **Guoliang Li**, Zhifeng Bao. Route Travel Time Estimation on A Road Network Revisited: Heterogeneity, Proximity, Periodicity and Dynamicity. **VLDB** 2023.
31. Yong Wang, **Guoliang Li**, Kaiyu Li, Haitao Yuan. A Deep Generative Model for Trajectory Modeling and Utilization. **VLDB** 2023.
32. Xiang Yu, Chengliang Chai, **Guoliang Li**, Jiabin Liu. Cost-based or Learning-based? A Hybrid Query Optimizer for Query Plan Selection. **VLDB** 2023.
33. Jiayi Wang, Chengliang Chai, Nan Tang, Jiabin Liu, **Guoliang Li**. Coresets over Multiple Tables for Feature-rich and Data-efficient Machine Learning. **VLDB** 2023.
34. Yuanning Gao, Xiuqi Huang, Xuanhe Zhou, Xiaofeng Gao, **Guoliang Li**, Guihai Chen. DBAugur: An Adversarial-based Trend Forecasting System for Diversified Workloads. **ICDE** 2023.
35. Yue Han, Chengliang Chai, Jiabin Liu, **Guoliang Li**, Chuangxian Wei, Chaoqun Zhan. Dynamic Materialized View Management using Graph Neural Network. **ICDE** 2023.
36. Jintao Zhang, Chao Zhang, **Guoliang Li**, Chengliang Chai. AutoCE: An Accurate and Efficient Model Advisor for Learned Cardinality Estimation. **ICDE** 2023.
37. **Guoliang Li**, Chao Zhang. HTAP Databases: What is New and What is Next. **SIGMOD** 2022.
38. Lixi Zhang, Chengliang Chai, Xuanhe Zhou, **Guoliang Li**. LearnedSQLGen: Constraint-aware SQL Generation using Reinforcement Learning. **SIGMOD** 2022.
39. Sainan Li, Qilei Yin, **Guoliang Li**, Qi Li, Zhuotao Li, Jinwei Zhu. Unsupervised Contextual Anomaly Detection for Database Systems. **SIGMOD** 2022.
40. Jianhong Tu, Ju Fan, Nan Tang, Peng Wang, Chengliang Chai, **Guoliang Li**, Ruixue Fan, Xiaoyong Du. Adaptation for Deep Entity Resolution: A Design Space Exploration. **SIGMOD** 2022.
41. **Guoliang Li**, Haowen Dong, Chao Zhang. Cloud Databases: New Techniques, Challenges, and Opportunities. **VLDB** 2022.
42. Jiayi Wang, Chengliang Chai, Jiabin Liu, **Guoliang Li**. FACE: A Normalizing Flow based Cardinality Estimator. **VLDB** 2022.
43. Ji Sun, Jintao Zhang, Zhaoyan Sun, **Guoliang Li**, Nan Tang. Learned Cardinality Estimation: A Design Space Exploration and A Comparative Evaluation. **VLDB** 2022.
44. Xuanhe Zhou, **Guoliang Li**, Chengliang Chai, Jianhua Feng. A Learned Query Rewrite System using Monte Carlo Tree Search. **VLDB** 2022.
45. Chengliang Chai, Jiabin Liu, Nan Tang, **Guoliang Li**, Yuyu Luo. Selective Data Acquisition in the Wild for Model Charging. **VLDB** 2022.
46. **Guoliang Li**, Xuanhe Zhou. Machine Learning for Data Management: A System View. **ICDE** 2022 Tutorial.
47. Xuedi Qin, Chengliang Chai, Nan Tang, Jian Li, Yuyu Luo, **Guoliang Li**, Yaoyu Zhu. Synthesizing Privacy Preserving Entity Resolution Datasets. **ICDE** 2022.
48. Chen Lin, Junqing Zhuang, Jiadong Feng, Hui Li, Xuanhe Zhou, **Guoliang Li**. Adaptive Code Learning for Spark Configuration Tuning. **ICDE** 2022.
49. Xuedi Qin, Chengliang Chai, Nan Tang, Jian Li, Yuyu Luo, **Guoliang Li**, Yaoyu Zhu. Synthesizing Privacy Preserving Entity Resolution Datasets. **ICDE** 2022.
50. Yuyu Luo, Nan Tang, **Guoliang Li**, Chengliang Chai, Wenbo Li, Xuedi Qin. Synthesizing Natural Language to Visualization (NL2VIS) Benchmarks from NL2SQL Benchmarks. **SIGMOD** 2021.



51. Ji Sun, **Guoliang Li**, Nan Tang. Learned Cardinality Estimation for Similarity Queries. **SIGMOD** 2021.
52. Guoliang Li, Xuanhe Zhou, Lei Cao. AI Meets Database: AI4DB and DB4AI. **SIGMOD** 2021 Tutorial.
53. **Guoliang Li**, Xuanhe Zhou, Ji Sun, Xiang Yu, Yue Han, Lianyuan Jin, Wenbo Li, Tianqing Wang, Shifu Li. openGauss: An Autonomous Database System. **VLDB** 2021.
54. Tongyu Liu, Yinqing Luo, Ju Fan, Nan Tang, **Guoliang Li**, Xiaoyong Du. Adaptive Data Augmentation for Supervised Learning over Missing Data. **VLDB** 2021
55. Guoliang Li, Xuanhe Zhou, Lei Cao. Machine Learning for Databases. **VLDB** 2021 Tutorial. New Pdf Slides
56. Xuedi Qin, Chengliang Chai, **Guoliang LI** et al. Ranking Desired Tuples by Database Exploration. **ICDE** 2021.
57. Haitao Yuan, **Guoliang Li**, Zhifeng Bao, Ling Feng. An Effective Joint Prediction Model for Travel Demands and Traffic Flows. **ICDE** 2021.
58. Shuai Huang, Tianyu Zhao, Yong Wang, **Guoliang Li** A Learning-based Method for Computing Shortest Path Distances on Road Networks. **ICDE** 2021.
59. Haitao Yuan, **Guoliang Li**, Zhifeng Bao, Ling Feng. Effective Travel Time Estimation: When Historical Trajectories over Road Networks Matter. **SIGMOD** 2020.
60. Chengliang Chai, Lei Cao, **Guoliang Li**, Jian Li, Yuyu Luo, Samuel Madden. Human-in-the-loop Outlier Detection. **SIGMOD** 2020.
61. Zhaoqiang Chen, Qun Chen, Boyi Hou, Zhanhuai Li, **Guoliang Li**. Towards Interpretable and Learnable Risk Analysis for Entity Resolution. **SIGMOD** 2020.
62. Xuedi Qin, Yuyu Luo, Chengliang Chai, Nan Tang, **Guoliang Li**. Interactively Discovering and Ranking Desired Tuples without Writing SQL Queries. **SIGMOD** Demo 2020.
63. Xuanhe Zhou, Ji Sun, **Guoliang Li**. Query Performance Prediction for Concurrent Queries using Graph Embedding. **VLDB** 2020: 1416 - 1428.
64. Ju Fan, Tongyu Liu, **Guoliang Li**, Yuwei Shen, Xiaoyong Du. Relational Data Synthesis using Generative Adversarial Networks: A Design Space Exploration. **VLDB** 2020: 1962 - 1975.
65. Ji Sun, **Guoliang Li**. An End-to-End Learning-based Cost Estimator. **VLDB** 2020.
66. Yuanbing Li, Xian Wu, Yifei Jin, Jian Li, **Guoliang Li**. Efficient Algorithms for Crowd-Aided Categorization. **VLDB** 2020.
67. Xiang Yu, **Guoliang Li**, Chengliang Chai, Nan Tang. Reinforcement Learning with Tree-LSTM for Join Order Selection. **ICDE** 2020.
68. Haitao Yuan, **Guoliang Li**, Ling Feng, Ji Sun, Yue Han . Automatic View Generation with Deep Learning and Reinforcement Learning. **ICDE** 2020.
69. Caihua Shan, **Guoliang Li**, Nikos Mamoulis, Reynold Cheng, Xiang Li. An End-to-End Deep RL Framework for Task Arrangement in Crowdsourcing Platforms. **ICDE** 2020.
70. Yuyu Luo, Chengliang Chai, Xuedi Qin, Nan Tang, **Guoliang Li**. Interactive Cleaning for Progressive Visualization through Composite Questions. **ICDE** 2020.
71. Shixun Huang, Zhifeng Bao, **Guoliang Li**. Temporal Network Representation Learning via Historical Neighborhoods Aggregation. **ICDE** 2020.
72. Chengliang Chai, **Guoliang Li**, Ju Fan, Yuyu Luo. CrowdChart: Crowdsourced Data Extraction from Visualization Charts. **ICDE** 2020.



73. Shuang Hao, Chengliang Chai, **Guoliang Li**, Nan Tang, Ning Wang Outdated Fact Detection in Knowledge Bases. **ICDE 2020**.
74. Ji Zhang, Yu Liu, Ke Zhou, **Guoliang Li** et al. An End-to-End Automatic Cloud Database Tuning System Using Deep Reinforcement Learning. **SIGMOD 2019**.
75. Yufei Tao, Yuanbing Li, **Guoliang Li**. Interactive Graph Search. **SIGMOD 2019**.
76. Ji Sun, Zeyuan Shang, **Guoliang Li**, Dong Deng, Zhifeng Bao. Balance-Aware Distributed String Similarity-Based Query Processing System. **VLDB 2019**.
77. James Pan, **Guoliang Li**. Ridesharing: Simulator, Benchmark, and Evaluation. **VLDB 2019**.
78. Jingru Yang, Ju Fan, Zhewei Wei, **Guoliang Li**, Tongyu Liu, Xiaoyong Du. Cost-Effective Data Annotation using Game-Based Crowdsourcing. **VLDB 2019**:57-70.
79. Dong Deng, Wenbo Tao, Ziawasch Abedjan, Ahmed Elmagarmid, Ihab Ilyas, **Guoliang Li**, Samuel Madden, Mourad Ouzzani, Michael Stonebraker, Nan Tang. Unsupervised String Transformation for Entity Consolidation. **ICDE 2019**.
80. Chengliang Chai, Dong Deng, **Guoliang Li**, Jiannan Wang, Yudian Zheng. Crowdsourcing Database Systems: Overview and Challenges. **ICDE 2019 Tutorial**.
81. Haitao Yuan, **Guoliang Li**. Distributed In-Memory Trajectory Similarity Search and Join on Road Network. **ICDE 2019**.
82. Ping Zhang, Yuchen Li, Zhifeng Bao, **Guoliang Li**, Zhiyong Wu Trajectory-driven Influential Billboard Placement. **KDD 2018**:2748-2757. (Best Paper Candidate)
83. Chengliang Chai, Ju Fan, **Guoliang Li**, Jiannan Wang, Yudian Zheng Crowd-Powered Data Mining. **KDD 2018**, Tutorial
84. Kaiyu Li, **Guoliang Li**, Xiaohang Zhang, Jianhua Feng. A Rating-Ranking Based Framework for Crowdsourced Top-k Computation. **SIGMOD 2018**
85. Dong Deng, Yufei Tao, **Guoliang Li**. Overlap Set Similarity Joins with Theoretical Guarantees. **SIGMOD 2018**
86. Zeyuan Shang, **Guoliang Li**, Zhifeng Bao. DITA: Distributed In-Memory Trajectory Analytics. **SIGMOD 2018**
87. Siqiang Luo, Ben Kao, **Guoliang Li**. TOAIN: A Throughput Optimizing Adaptive Index for Answering Dynamic kNN Queries on Road Networks. **VLDB 2018**
88. Yuyu Luo, Xueqi Qin, Nan Tang, **Guoliang Li**. DeepEye: Towards Automatic Data Visualization. **ICDE 2018**
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90. Shuang Hao, Nan Tang, **Guoliang Li**, Jianhua Feng. Discovering Mis-Categorized Entities. **ICDE 2018**
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Projects

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2. Intelligent Education. TAL Education. 15M RMB, 2017-2022, **PI**
3. Distributed Database Systems. NSFC. 2.8M RMB, 2022-2026. **PI**
4. Autonomous Database. NSFC. 4M RMB. 2019-2024. **PI**
5. Crowdsourcing on Big Data. 973 Program of China. 5M RMB. 2015-2019. **PI**
6. Large-scale Web table Management. NSF of China Excellent Young Scholar. 1M RMB. 2015-2017. **PI**
7. Data Integration on Location-based Social Network. National Science Foundation of China (**NSFC**). 2014-2017. 800K RMB. **PI**
8. Location-Aware Data Extraction and Cleaning. National Science Foundation of China (**NSFC**). 2013-2016. 840K RMB. **Co-PI**
9. New User-Friendly Search Paradigm in Databases. National Science Foundation of China (**NSFC**). 2011-2013. 210K RMB. **PI**
10. In-memory Computing. **SAP**. 2013-2014. 500K USD. **PI**
11. Direction-Aware Search. **Samsung**. 2013-2014. 400K RMB. **PI**
12. Location-Aware Search. **Tencent**. 2012-2014. 500K RMB. **Co-PI**
13. Location-Aware Integration. **Microsoft**. 2013-2014. 10K USD. **PI**
14. Massive Data Cleaning and Integration. **Huawei**. 2012-2013. 120K RMB. **PI**.
15. Data Extraction in Hidden Databases. **Sogou**. 2012-2013. 300K RMB. **Co-PI**.
16. Outsourcing databases. **Siemens**. 2013-2014. 20K USD. **Co-PI**
17. Trading Consistency for Performance and Availability in Large-Scale Distributed Databases. **IBM SUR Project**. 10K USD, 2012. **PI**
18. Massive Data Management. Research Foundation of Tsinghua. 2011-2013, 390K RMB. **PI**
19. Next-Generation Search Engine and Browser. Key Projects of Core-High-Tech-Basic Program. 2011-2012. 1M RMB. **Co-PI**.
20. Indexing, Query Processing and Optimizations on Flash Databases. National Science Foundation of China (**NSFC**). 2010-2012. 300K RMB. **Co-PI**
21. Keyword Search in Large Scale Data. 863 Project of China. 2009-2011. 1M RMB. **Co-PI**

Affiliated Students

1. Dong Deng, PhD, Now Assistant Professor at Rutgers University
2. Ju Fan, PhD Student. Now Associate Professor at Renmin University
3. Jiannan Wang. PhD Student. Now Associate Professor at SFU
4. Shuang Hao, PhD student. Now associate professor at Beijing Jiaotong University
5. Chengliang Chai, PhD student. Now associate professor at BIT University
6. Yuyu Luo, PhD student. Now assistant professor at HKUST Guangzhou
7. Huiqi Hu, PhD Student. Now associate Professor at East Normal University
8. Hao Wu. PhD Student. Now at Microsoft, Beijing
9. Dongzhe Ma. PhD Student. Now at Google, Beijing
10. Nan Zhang. Master Student. Now at Microsoft Seattle
11. Ting Wang. Master Student. Now at Google Palo Alto
12. Jing Xu. Master Student. Now at Google Shanghai