

Research Areas

Transaction Processing, Large-Scale Data Analysis, Data Systems for Machine Learning

Employment

2024-present Assistant Professor - University of Texas, Austin
2021-2023 Postdoctoral Scholar - University of California, Berkeley
 Advisor: Aditya G. Parameswaran, Associate Professor

Education

2015-2020 Ph.D. in Computer Science - University of Chicago
 Advisor: Aaron J. Elmore, Associate Professor
2011-2014 M.S. in Computer Science - Institute of Computing Technology, Chinese Academy of Sciences
 Advisor: Wei Li, Associate Professor
2007-2011 B.S. in Software Engineering - Huazhong University of Science & Technology

Publications

- P1. Transactional Panorama: A Conceptual Framework for User Perception in Analytical Visual Interfaces (extended version)
 Dixin Tang, Alan Fekete, Indranil Gupta, Aditya G. Parameswaran
 VLDBJ 2025 (The “**Best of VLDB 2023**” special issue of VLDB Journal)
- P2. Tigon: A Distributed Database for a CXL Pod
 Yibo Huang, Haowei Chen, Newton Ni, Vijay Chidambaram, **Dixin Tang**, Emmett Witchel
 OSDI 2025
- P3. Impeller: Stream Processing on Shared Logs
 Zhiting Zhu, Zhipeng Jia, Newton Ni, **Dixin Tang**, Emmett Witchel
 EuroSys 2025
- P4. Pasha: An Efficient, Scalable Database Architecture for CXL Pods
 Yibo Huang, Newton Ni, Vijay Chidambaram, Emmett Witchel, **Dixin Tang**
 CIDR 2025
- P5. Dealing with Acronyms, Abbreviations, and Typos in Real-World Entity Matching
 Joshua Wu, **Dixin Tang**, Nithin Chalapathi, Tristan Chambers, Julie Ciccolini, Cheryl Phillips,
 Lisa Pickoff-White, Aditya G. Parameswaran
 VLDB 2024, Industrial Track
- P6. Visualizing Spreadsheet Formula Graphs Compactly
 Fanchao Chen, **Dixin Tang**, Haotian Li, Aditya G. Parameswaran
 VLDB 2023, Demo
- P7. Transactional Panorama: A Conceptual Framework for User Perception in Analytical Visual Interfaces
 Dixin Tang, Alan Fekete, Indranil Gupta, Aditya G. Parameswaran
 VLDB 2023 (“Best of VLDB 2023”)
- P8. Efficient and Compact Spreadsheet Formula Graphs

Dixin Tang, Fanchao Chen, Christopher De Leon, Tana Wattanawaroon, Jeaseok Yun,
Srinivasan Seshadri, Aditya G. Parameswaran
ICDE 2023

- P9. Flexible Rule-Based Decomposition and Metadata Independence in Modin: A Parallel Dataframe System
Devin Petersohn*, **Dixin Tang***, Rehan Durrani, Areg Melik-Adamyan, Joseph E. Gonzalez,
Anthony D. Joseph, Aditya G. Parameswaran
VLDB 2022 (*Equal contribution)
- P10. Lux: Always-on Visualization Recommendations for Exploratory Dataframe Workflows
Doris Jung-Lin Lee, **Dixin Tang**, Kunal Agarwal, Thyne Boonmark, Caitlyn Chen, Jake Kang,
Ujjaini Mukhopadhyay, Jerry Song, Micah Yong, Marti A. Hearst, Aditya G. Parameswaran
VLDB 2022
- P11. Enhancing the Interactivity of Dataframe Queries by Leveraging Think Time
Doris Xin, Devin Petersohn, **Dixin Tang**, Yifan Wu, Joseph E. Gonzalez, Joseph M. Hellerstein,
Anthony D. Joseph, Aditya G. Parameswaran
IEEE Data Eng. Bull. 2021
- P12. Resource-Efficient Shared Query Execution via Exploiting Time Slackness
Dixin Tang, Zechao Shang, William Ma, Aaron J. Elmore, Sanjay Krishnan
SIGMOD 2021
- P13. CIAO: An Optimization Framework for Client-Assisted Data Loading
Cong Ding, **Dixin Tang**, Xi Liang, Aaron J. Elmore, Sanjay Krishnan
ICDE 2021, Short Paper
- P14. CrocodileDB in Action: Resource-Efficient Query Execution by Exploiting Time Slackness
Dixin Tang, Zechao Shang, Aaron J. Elmore, Sanjay Krishnan, Michael J. Franklin
VLDB 2020, Demo
- P15. Thrifty Query Execution via Incrementability
Dixin Tang, Zechao Shang, Aaron J. Elmore, Sanjay Krishnan, Michael J. Franklin
SIGMOD 2020
- P16. CrocodileDB: Efficient Database Execution through Intelligent Deferment
Zechao Shang, Xi Liang, **Dixin Tang**, Cong Ding, Aaron J. Elmore, Sanjay Krishnan, Michael J. Franklin
CIDR 2020
- P17. Intermittent Query Processing
Dixin Tang, Zechao Shang, Aaron J. Elmore, Sanjay Krishnan, Michael J. Franklin
VLDB 2019
- P18. Socrates: The New SQL Server in the Cloud
Panagiotis Antonopoulos, Alex Budovski, Cristian Diaconu, Alejandro Hernandez Saenz, Jack Hu,
Hanuma Kodavalla, Donald Kossmann, Umar Farooq Minhas, Naveen Prakash, Hugh Qu,
Chaitanya Sreenivas Ravella, Krystyna Reisteter, Sheetal Shrotri, **Dixin Tang**, Vikram Wakade
SIGMOD 2019
- P19. Toward Coordination-Free and Reconfigurable Mixed Concurrency Control
Dixin Tang, Aaron J. Elmore
USENIX/ATC 2018
- P20. Adaptive Concurrency Control: Despite the Looking Glass, One Concurrency Control Does Not Fit All
Dixin Tang, Hao Jiang, Aaron J. Elmore
CIDR 2017

Professional Services

Program Committee:

SIGMOD - 2022, 2023, 2025, 2026
SIGMOD Demo Track - 2022, 2024, 2025
VLDB - 2025, 2026
ICDE - 2025, 2026
EDBT - 2024
HILDA - 2023, 2024

Conference Reviewer:

IEEE VIS - 2021

Journal Reviewer:

VLDB Journal
Distributed and Parallel Databases Journal

Teaching

University of Texas at Austin:

Instructor CS 347 - Data Management, Fall 2024
Instructor CS 395T - Advanced Query Optimizations, Spring 2024

University of Chicago:

TA CMSC 23500 - Introduction to Database Systems, Winter 2017-2020
TA MPCS 52040 - Distributed Systems, Spring 2016
TA MPCS 51040 - C Programming, Fall 2015

Industry Experience

■ Internship at Microsoft Research

Project: Benchmarking Socrates

June 2018-Sep. 2018

Mentor: Umar Farooq Minhas

Socrates is a new cloud-native database that decouples computation from storage. My internship involved testing the new database architecture of Socrates in an industrial setting, understanding its performance bottlenecks, and proposing optimization opportunities.