

Research Areas

Query Processing and Optimizations, Transaction Processing, Cloud-Native Databases

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

Recent Publications

- P1. Visualizing Spreadsheet Formula Graphs Compactly
 Fanchao Chen, **Dixin Tang**, Haotian Li, Aditya G. Parameswaran
 VLDB 2023, Demo
- P2. Transactional Panorama: A Conceptual Framework for User Perception in Analytical Visual Interfaces
 Dixin Tang, Alan Fekete, Indranil Gupta, Aditya G. Parameswaran
 VLDB 2023
- P3. Efficient and Compact Spreadsheet Formula Graphs
 Dixin Tang, Fanchao Chen, Christopher De Leon, Tana Wattanawaroon, Jeaseok Yun,
 Srinivasan Seshadri, Aditya G. Parameswaran
 ICDE 2023
- P4. 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)
- P5. 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
- P6. 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
- P7. Resource-Efficient Shared Query Execution via Exploiting Time Slackness
 Dixin Tang, Zechao Shang, William Ma, Aaron J. Elmore, Sanjay Krishnan
 SIGMOD 2021

- P8. CIAO: An Optimization Framework for Client-Assisted Data Loading
Cong Ding, **Dixin Tang**, Xi Liang, Aaron J. Elmore, Sanjay Krishnan
ICDE 2021, Short Paper
- P9. 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
- P10. Thrifty Query Execution via Incrementability
Dixin Tang, Zechao Shang, Aaron J. Elmore, Sanjay Krishnan, Michael J. Franklin
SIGMOD 2020
- P11. 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
- P12. Intermittent Query Processing
Dixin Tang, Zechao Shang, Aaron J. Elmore, Sanjay Krishnan, Michael J. Franklin
VLDB 2019
- P13. 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
- P14. Toward Coordination-Free and Reconfigurable Mixed Concurrency Control
Dixin Tang, Aaron J. Elmore
USENIX'ATC 2018
- P15. 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'25, SIGMOD'24 (Demo Track), SIGMOD'23, SIGMOD'22, SIGMOD'22 (Demo Track)
EDBT'24
HILDA'23

Conference Reviewer:

IEEE VIS'21

Journal Reviewer:

VLDB Journal
Distributed and Parallel Databases Journal

Honors & Awards

- 2018 USENIX ATC'18 Student Travel Grant
- 2016 University Unrestricted (UU) Fellowship - The University of Chicago
- 2016 CERES 1st year Graduate Research Award - The University of Chicago

Teaching Assistants

- Winter 2020 CMSC 23500 - Introduction to Database Systems

Winter 2019	CMSC 23500 - Introduction to Database Systems
Winter 2018	CMSC 23500 - Introduction to Database Systems
Winter 2017	CMSC 23500 - Introduction to Database Systems
Spring 2016	MPCS 52040 - Distributed Systems
Fall 2015	MPCS 51040 - C Programming

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.

Referees

Name Aditya G. Parameswaran
Affiliation University of California, Berkeley
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Name Aaron J. Elmore
Affiliation University of Chicago
Position Associate Professor
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Name Michael J. Franklin
Affiliation University of Chicago
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Name Sanjay Krishnan
Affiliation University of Chicago
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Contact skr@cs.uchicago.edu

Name Indranil Gupta
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Position Full Professor
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Name Umar Farooq Minhas
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Name Wei Li
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