

## Research Areas

Cloud Data Systems, Query Processing and Optimizations, Transaction Processing

## 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  
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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  
**Position** Full Professor, Liew Family Chairman of Computer Science  
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**Name** Sanjay Krishnan  
**Affiliation** University of Chicago  
**Position** Assistant Professor  
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**Name** Indranil Gupta  
**Affiliation** University of Illinois Urbana-Champaign  
**Position** Full Professor  
**Contact** indy@illinois.edu

**Name** Umar Farooq Minhas  
**Affiliation** Apple Knowledge Platform  
**Position** Engineering Leader  
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**Name** Wei Li  
**Affiliation** Institute of Computing Technology, Chinese Academy of Sciences  
**Position** Associate Professor  
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