

TaiNing (Doris) Wang
Assistant Professor, Department of Computer Science
Loyola University Chicago
Email: twang12@luc.edu
Homepage: <https://www.tainingw.com>

Professional Experience

- **Tenure-Track Assistant Professor**, Department of Computer Science
Loyola University Chicago, United States Aug 2023 – Present

- **Postdoctoral Research Fellow**
National University of Singapore, Singapore Apr 2022 – Apr 2023
Supervisor: Prof. Kian-Lee Tan

- **Research Intern**
Microsoft Research, Redmond, United States May 2018 – Aug 2018
Supervisor: Dr. Vivek Narasayya

- **Research Intern**
INRIA (Computer Science Laboratory), École Polytechnique, France May 2015 – Jul 2015
Supervisor: Prof. Mireille Régnier
Project: Efficient representation of highly similar strings

- **Research Intern**
Agency for Science, Technology and Research (A*STAR), Singapore May 2014 – Aug 2014
Data Storage Institute
Supervisor: Dr. Shuqin Ren
Project: Search and computation over cloud-based encrypted document store

Education

- Ph.D. in Computing (Computer Science) Aug 2016 – May 2022
National University of Singapore
Advisor: Prof. Chee-Yong Chan
Thesis: *Join Query Optimization with Improved Selectivity Estimation and Complete Join Reorderability*

- Bachelor of Computing (Computer Science), Honors (Highest Distinction) Aug 2012 – Jun 2016
National University of Singapore
GPA: 4.84 / 5.00 (Second best student in the cohort)

- Undergraduate Exchange Program Jan 2015 – May 2015
University of North Carolina at Chapel Hill

Research Interests

Database systems, query processing and optimization, graph data, data sampling, applied AI and ML, AI accountability, formal methods

Publications

Refereed Conference Publication

- TaiNing Wang, Yunpeng Niu, Chee-Yong Chan. **Complete Join Reordering for Null-Intolerant Joins**. *IEEE International Conference on Data Engineering (ICDE)*, 2023.
- TaiNing Wang, Chee-Yong Chan. **Improved Correlated Sampling for Join Size Estimation**. *IEEE International Conference on Data Engineering (ICDE)*, 2020.
- TaiNing Wang, Chee-Yong Chan. **Improving Join Reorderability with Compensation Operators**. *ACM International Conference on Management of Data (SIGMOD)*, 2018.
- Shuqin Ren, Benjamin Hong Meng Tany, Sivaraman Sundaram, TaiNing Wang, Khin Mi Mi Aung. **Homomorphic Exclusive-Or Operation Enhance Secure Searching on Cloud Storage**. *IEEE CloudCom*, 2014.

Refereed Journal Publication

- Shuqin Ren, Benjamin Hong Meng Tany, Sivaraman Sundaram, TaiNing Wang, Yibin Ng, Victor Chang, Khin Mi Mi Aung. **Secure Searching on Cloud Storage Enhanced by Homomorphic Indexing**. *Future Generation Computer Systems*, 2016.

Technical Report

- TaiNing Wang, Yunpeng Niu, Chee-Yong Chan. **Extended Technical Report on Complete Join Reordering for Null-Intolerant Joins**. Technical Report, 2023.

Teaching

Loyola University Chicago

- COMP 163: Discrete Structures Fall 2023 – Present
Course Instructor

National University of Singapore

- CS2102: Database Systems 2018-2020
Teaching Assistant
- CS4224: Distributed Databases 2018-2020
Teaching Assistant

Service

Professional Service

- Reviewer: ACM TODS (2020), IEEE TCC (2024)
- Sub-reviewer: VLDB (2018, 2019), IEEE ICDE (2018, 2020, 2021)

Honors and Awards

- Microsoft Research Asia Fellowship 2019
- President Graduate Fellowship, National University of Singapore 2018 – 2020
- Research Achievement Award, National University of Singapore 2018
- Tata Consultancy Services Asia Pacific Medal & Prize 2016
- Science & Technology Undergraduate Scholarship, Singapore 2012 – 2016
- Dean’s List Award, National University of Singapore 2013 – 2014
- Dean’s List Award, UNC Chapel Hill 2015

Invited Talks

Complete Join Reordering for Null-Intolerant Joins

- IEEE ICDE conference 2023

Improved Correlated Sampling for Join Size Estimation

- IEEE ICDE conference 2020

Improving Join Reorderability with Compensation Operators

- Microsoft Research Asia, 2019
- SoC Research Week, National University of Singapore, 2019
- ACM SIGMOD conference 2018
- Microsoft Research Redmond, 2018