

Ti-Chung Cheng

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EDUCATION

- Ph.D. Computer Science, University of Illinois at Urbana-Champaign** 2020 - Present
Advised by Prof. Karrie Karahalios & Prof. Hari Sundaram
- M.Sc. Computer Science, University of Illinois at Urbana-Champaign** 2018 - 2020
Advised by Prof. Karrie Karahalios, Prof. Hari Sundaram, and Prof. Aditya Parameswaran
Thesis: "Comparing Quadratic Voting and Likert Surveys"
- B.Sc. Computer Science with Business Economics Minor, The Chinese University of Hong Kong** 2013 - 2017
Final Year Project: "Efficient nearest-neighbor search in Distributed Manner" advised by Prof. James Cheng

RESEARCH INTEREST

- [R1] Understand how mechanism design in systems influenced decision makings for individuals and teams.
- [R2] Build and design end-user data analytic system, ie. visualization and spreadsheet tools, to facilitate better decision making

RESEARCH AND WORK EXPERIENCE

- Software Engineer Intern, Salesforce** Summer 2020
Mentored by Richa Gupta, Lightning Component Services Team
Develop VSCode Plugin for Salesforce developers to reduce XML development time by 2x
Contributed to Redhat XML Open Source Plugin that has 794K installs
- Software Engineer Intern, Salesforce** Summer 2019
Mentored by Anas Jadallah, Lightning Component Services Team
Built pipeline and designed 3 dashboards for daily logs on a billion scale for performance metrics
Optimized dashboard queries by 10x with better comprehensibility
- Graduate Research Assistant, University of Illinois at Urbana-Champaign** Jan 2019 - May 2019
- Machine Learning Research Intern, KKBOX** Summer 2018
Mentored by Dr. Yian Chen, Machine Learning Team
Researched and implemented ML pipeline for NER with 90%+ accuracy
Built pattern-based relation extraction pipeline for cross-language music content using 3B+ music data
- Undergraduate Research Assistant, The Chinese University of Hong Kong** Dec 2015 - Dec 2017
Mentored by Prof. James Cheng and Dr. JinFeng Li
Conducted research on distributed hash-based nearest-neighbor search algorithms with a publication at SIGMOD
Built 15% more time efficient and scalable Image Retrieval system compared to OpenCV FLANN Library
- Summer Research Intern, National Center for High-Performance Computing** Summer 2015
Mentored by Dr. Hsing-Yen Ann
Designed and implemented database pipeline to retrieve and analyzes malicious fast-flux domains
Contributed to *Tsai et al. Using BDTS to detect IP changes of malicious domains over time. TANET 2018.*

PUBLICATIONS

[In preparation] Understanding How People Modify Spreadsheets

Ti-Chung Cheng, Tana Wattanawaroon, Aditya Parameswaran, Karrie Karahalios.

[Under Review] "I can show what I really like.": Eliciting Preferences via Quadratic Voting

Ti-Chung Cheng*, Tiffany Wenting Li*, Yi-Hung Chou, Karrie Karahalios, Hari Sundaram, *Proceedings of the 2021 ACM Conference on Computer Supported Cooperative Work and Social Computing, CSCW 2021*

[Under Review] "We Just Use What They Give Us": Understanding Passenger User Perspectives in Smart Homes

Vinay Koshy, Joon Sung Park, Ti-Chung Cheng, Karrie Karahalios, *Proceedings of the 2021 CHI Conference on Human Factors in Computing Systems, CHI 2021*

[C2] Understanding Data Analysis Workflows on Spreadsheets: Roadblocks and Opportunities.

Pingjing Yang, Ti-Chung Cheng*, Sajjadur Rahman*, Mangesh Bendre, Karrie Karahalios, Aditya Parameswaran. *Workshop on Human-In-the-Loop Data Analytics (HILDA) at SIGMOD, June 2020., HILDA 2020*

*Equal Contribution

[C1] A General and Efficient Querying Method for Learning to Hash.

Jinfeng Li, Xiao Yan, Jian Zhang, An Xu, James Cheng, Jie Liu, Kelvin K. W. Ng, **Ti-Chung Cheng**. *SIGMOD '18: ACM SIGMOD Int'l Conf. on Management of Data, Houston, USA, 2018.*

TEACHING EXPERIENCE

CS 411 Database Systems, Teaching Assistant, UIUC	FA 2020
CS 242 Programming Studio, Head Teaching Assistant, UIUC	FA 2019, SP 2020
CS 242 Programming Studio, Teaching Assistant, UIUC	FA 2018
CSCI 2040 Introduction to Python, Course Assistant, CUHK	FA 2017

AWARDS

The Chinese University of Hong Kong Morningside College Academic Scholarship 2016-17	2017
HKSAR Government Reaching Out Award and Scholarship 2013-14	2014

SERVICE

Columnist, Mandarin Daily News	Jan 2020 - Present
Writes monthly column on computer science, technology and HCI for elementary students.	
The paper have over 100K subscribers and is used elementary teachers in Taiwan.	
MUSE Mentor, University of Illinois at Urbana-Champaign	FALL 2019
Rifleman (Private), The Republic of China Army	Jan 2018 - Apr 2018
Initiator and coordinator, The Circle Group	Oct 2016 - Dec 2017
The Circle Group was designed to connect CS and non-CS students academically through sharing	
Established The Circle Group that serves as a knowledge exchange platform with a team of 20+ students.	
Created a guide for incoming freshmen with over 10K views and hosted 21 workshops including 13 technical lectures.	
Invited over 30 speakers from various disciplines that served over 1000+ audiences.	
Information Officer, CUHK, Taiwanese Student Association	Oct 2015 - Oct 2016
Project Coordinator and Volunteer, CUHK, Morningside College	Oct 2013 - May 2014
Volunteered in Nepal to understand, evaluate needs of local people ,and provide solutions.	
Wrote and received 37,500 HKD volunteering grant from the university.	