LIN CHEN

Email: lchencu@connect.ust.hk

Department of Computer Science and Engineering

The Hong Kong University of Science and Technology

RESEARCH INTERESTS

Urban Mobility, Urban Science, Large Language Model, Graph Neural Networks, Science of Science.

EDUCATION

The Hong Kong University of Science and Technology, Hong Kong *Sept. 2020 - Present*
Ph.D. Candidate in Department of Computer Science and Engineering
Advisor: Prof. Pan Hui

Tongji University, Shanghai *Sept. 2016 - Jul. 2020*
B.S. in Department of Electronics and Information Engineering
Summa cum laude (GPA: 4.86/5)

RESEARCH EXPERIENCE

The Hong Kong University of Science and Technology, Hong Kong *Sept. 2020 - Present*
Research Assistant @ SyMLab
Advisor: Prof. Pan Hui (Director of SyMLab)

Tsinghua University, Beijing *Apr. 2023 - Dec. 2023*
Visiting Researcher @ Future Intelligence Lab (FIB)
Advisor: Prof. Yong Li (Director of FIB)

University of Chicago, Chicago *Dec. 2022 - Apr. 2023*
Visiting Researcher @ Knowledge Lab
Advisor: Prof. James Evans (Director of Knowledge Lab)

Feng Chia University, Taichung *Jul. 2017*
Summer School, Innovation for Aging in Place

SELECTED AWARDS

KDD Student Travel Award	*2024*
HKUST Conference Travel Grant	*2024*
Rising Stars Women in Engineering, Asian Deans' Forum	*2023*
ICWSM Student Travel Grant	*2023*
HKUST Overseas Research Award	*2022*
Hong Kong PhD Fellowship (HKPFS)	*2020-2024*
Shanghai Outstanding Bachelor Graduate	*2020*
Outstanding Student of Tongji University	*2019*
China National Scholarship	*2019*
China National Scholarship	*2018*
China National Scholarship	*2017*

PUBLICATIONS

[10] Fengli Xu, Qi Wang, Esteban Moro, **Lin Chen**, Arianna Salazar Miranda, Marta C. Gonzalez, Michele Tizzoni, Chaoming Song, Carlo Ratti, Luis Bettencourt, Yong Li, and James Evans. Mobility Behaviour Data Quantifies Experienced Inequalities in Urban Space. To appear in *Nature Human Behaviour*.

[9] **Lin Chen**, Fengli Xu, Nian Li, Zhenyu Han, Meng Wang, Yong Li, and Pan Hui. Large Language Model-driven Meta-structure Discovery in Heterogeneous Information Network. *Proceedings of the 30th ACM SIGKDD Conference on Knowledge Discovery and Data Mining (SIGKDD)*, pp. 307-318. (2024)

[8] **Lin Chen**, Yong Li, and Pan Hui. VulnerabilityMap: An Open Framework for Mapping Vulnerability among Urban Disadvantaged Populations in the United States. *Proceedings of the Thirty-Third International Joint Conference on Artificial Intelligence (IJCAI)* AI for Good. Pages 7206-7214. (2024)

[7] Yunke Zhang, Fengli Xu, **Lin Chen**, Yuan Yuan, James Evans, Luis Bettencourt, and Yong Li. Counterfactual Mobility Network Embedding Reveals Prevalent Accessibility Gaps in U.S. Cities. *Humanities and Social Sciences Communications*, 11, 87. (2024)

[6] Zhenyu Han, **Lin Chen**, Qianyue Hao, Qiwei He, Katherine Budeski, Depeng Jin, Fengli Xu, Kun Tang, and Yong Li. How enlightened self-interest guided global vaccine sharing benefits all: a modeling study. *Journal of Global Health*, 13. (2023)

[5] **Lin Chen**, Qianyue Hao, Fengli Xu, Yong Li, and Pan Hui. Getting Back on Track: Understanding COVID-19 Impact on Urban Mobility and Segregation with Location Service Data. *Proceedings of the International AAAI Conference on Web and Social Media (ICWSM)*, 17(1), 126-136. (2023)

[4] Qianyue Hao, Fengli Xu, **Lin Chen**, Pan Hui, and Yong Li. Hierarchical Multi-agent Model for Reinforced Medical Resource Allocation with Imperfect Information. *ACM Transactions on Intelligent Systems and Technology (TIST)*, Volume 14, Issue 1, pp 1–27. (2022)

[3] **Lin Chen***, Fengli Xu*, Zhenyu Han, Kun Tang, Pan Hui, James Evans, and Yong Li. Strategic COVID-19 vaccine distribution can simultaneously elevate social utility and equity. *Nature Human Behaviour* (IF=24.252), Volume 6, Issue 11, pp 1503–1514. (2022)

[2] Qianyue Hao, Fengli Xu, **Lin Chen**, Pan Hui, and Yong Li. Hierarchical Reinforcement Learning for Scarce Medical Resource Allocation with Imperfect Information. *Proceedings of the 27th ACM SIGKDD Conference on Knowledge Discovery & Data Mining (SIGKDD), pp. 2955-2963.* (2021)

[1] Qianyue Hao*, **Lin Chen***, Fengli Xu, and Yong Li. Understanding the Urban Pandemic Spreading of COVID-19 with Real World Mobility Data. *Proceedings of the 26th ACM SIGKDD International Conference on Knowledge Discovery & Data Mining (SIGKDD), pp. 3485-3492.* (2020)

* indicates equal contribution.

WORKING PAPERS

[2] Large Language Models for Computational Social Science: A Survey. In preparation.

[1] **Lin Chen**, Fengli Xu, James Evans, Yong Li, and Pan Hui. Heterogeneous Mobility Response in Complex Urban Networks. Accepted to *IC2S2'24*.

TEACHING EXPERIENCE

COMP 4641: Social Information Network Analysis and Engineering @HKUST *Spring 2021*
Teaching Assistant; Instructor: Prof. Pan Hui

COMP 4021: Internet Computing @HKUST *Fall 2021*
Teaching Assistant; Instructor: Prof. Dik-Lun Lee

ACADEMIC SERVICE

Conference Reviewer: TNSE (20), TheWebConf (22), IC2S2 (22, 24), IMWUT (22), WSDM (23)
Journal Reviewer: Journal of Social Computing (JSC)

LANGUAGE

Chinese (native, both Putonghua and Teochew), **English** (proficient), **Korean** (beginner)

TALKS AND POSTERS

[Aug 2024, Barcelona] "Large language model-driven meta-structure discovery in heterogeneous information network", Oral & Poster @ the 30th ACM SIGKDD Conference on Knowledge Discovery and Data Mining (KDD'24).

[Aug 2024, Beijing] "Mobility network centrality explains urban social resilience during crises", Poster & Pitch @ the Second Research Summit for Urban Science (RSUS'24).

[Aug 2024, Jeju] "VulnerabilityMap: An Open Framework for Mapping Vulnerability among Urban Disadvantaged Populations in the United States", Oral & Poster @ the Thirty-Third International Joint Conference on Artificial Intelligence (IJCAI'24).

[Nov 2023, Tokyo] "UrbanLens: Computational Understanding of Urban Lifestyles", Poster & Pitch @ Rising Stars Women in Engineering Workshop, Asian Deans' Forum (ADF-RSE'23).

[Sept 2023, Beijing] "Strategic COVID-19 vaccine distribution can simultaneously elevate social utility and equity", Poster @ the 3rd International Forum on Big Data for Sustainable Development Goals (FBAS'23).

[Aug 2023, Beijing] "Strategic COVID-19 vaccine distribution can simultaneously elevate social utility and equity", Poster & Pitch @ the First Research Summit for Urban Science (RSUS'23).

[Jun 2023, Limassol] "Getting Back on Track: Understanding COVID-19 Impact on Urban Mobility and Segregation with Location Service Data", Oral @ the International AAAI Conference on Web and Social Media (ICWSM'23).