# Yijun Lin

Department of Computer Science & Engineering

University of Minnesota, Twin Cities

Email: lin00786@umn.edu

Personal Website: https://linyijun.github.io

Lab Website: https://knowledge-computing.github.io

## Education

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|---|---|
| 2021 - | Ph.D., Computer Science, University of Minnesota, Twin Cities, USA |
| 2018 - 2021 | Ph.D., Computer Science, University of Southern California, USA (Transferred to UMN after Aug. 2021) |
| 2015 - 2017 | M.S., Data Science, University of Southern California, USA |
| 2011 - 2015 | B.S., Information Securities, Tongji University, Shanghai, China |

## Honors & Awards

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| 2024-2025 | **Doctoral Dissertation Fellowship**, The University of Minnesota Graduate School (link) |
| 2024 | **Student Travel Award**, The 30th ACM SIGKDD International Conference on Knowledge Discovery and Data Mining |
| 2022-2024 | **UMN DSI-ADC Fellowship** |
| 2023 | **Student Travel Award**, The 31st ACM SIGSPATIAL International Conference on Advances in Geographic Information Systems |
| 2023 | **Third Place, Best Poster Award & Student Travel Award**, SIAM International Conference on Data Mining |
| 2022 | **First Place, Map Feature Extraction Challenge, AI for Critical Mineral Assessment Competition.** Duan, W., Li, Z., Lin, F., **Lin, Y.**, Shrotriya, T., Knoblock, C. A., Chiang, Y.-Y. |
| 2020 | **Student Travel Award**, IEEE International Conference on Data Mining |
| 2019 | **Student Travel Award & Excellent Service Award**, IEEE CIC, CogMI, IEEE TPS |
| | **Student Travel Award**, The 27th ACM SIGSPATIAL International Conference on Advances in Geographic Information Systems |
| 2018 | **Student Travel Award**, The 26th ACM SIGSPATIAL International Conference on Advances in Geographic Information Systems |

## Publications

**Lin, Y.** and Chiang, Y.-Y. (2024). Hyper-Local Deformable Transformers for Text Spotting on Historical Maps. In Proceedings of the *ACM SIGKDD International Conference on Knowledge Discovery and Data Mining (Accepted),* Barcelona, Spain

**Lin, Y.** and Chiang, Y.-Y. (2023). Modeling Spatially Varying Physical Dynamics for Spatiotemporal Predictive Learning. In *Proceedings of the 31st ACM SIGSPATIAL international conference on advances in geographic information systems,* Hamburg, Germany

Kim, J., Li, Z., **Lin, Y.**, Namgung, M, Jang, L., and Chiang, Y.-Y. (2023). The mapKurator System: A Complete Pipeline for Extracting and Linking Text from Historical Maps (Demo Paper). In *Proceedings of the 31st ACM SIGSPATIAL international conference on advances in geographic information systems (accepted),* Hamburg, Germany

**Lin, Y.** and Chiang, Y.-Y. (2022). A Semi-Supervised Learning Approach for Abnormal Event Prediction on Large Network Operation Time-Series Data. In *Proceedings of the 2022 IEEE International Conference on Big Data,* pp. 1024-1033, Osaka, Japan

**Lin, Y.**, Chiang, Y.-Y., Franklin, M., Eckel, S. P. and Ambite, J. L. (2020). Building Autocorrelation-Aware Representations for Fine-Scale Spatiotemporal Prediction. In *Proceedings of IEEE International Conference on Data Mining (ICDM),* pp. 352-361, Sorrento, Italy **(9.8% acceptance rate)**

Chiang, Y-Y. and **Lin, Y.** (2020). Design, Development, Testing, and Deployment of GIS Applications. *The Geographic Information Science & Technology Body of Knowledge* (4th Quarter 2020 Edition), John P. Wilson (Ed.). doi: 10.22224/gistbok/2020.4.2

Karroum, K., **Lin, Y.**, Chiang, Y. Y., Ben Maissa, Y., El Haziti, M., Sokolov, A. and Delbarre, H. (2020). A review of air quality modeling. *MAPAN, 35(2), 287-300*

Chiang, Y.-Y., **Lin, Y.**, Franklin, M., Eckel, S. P., Ambite, J. L. and Ku, W.-S. (2019). Building Explainable Data Analytics for Location-Dependent Time-Series Data. In *Proceedings of the First IEEE International Conference on Cognitive Machine Intelligence (CogMI),* pp. 202–209, Los Angeles, CA, USA (Invited paper)

**Lin, Y.**, Mago, N., Gao, Y., Li, Y., Chiang, Y.-Y., Shahabi, C. and Ambite, J. L. (2018). Exploiting spatiotemporal patterns for accurate air quality forecasting using deep learning. In *Proceedings of the 26th ACM SIGSPATIAL international conference on advances in geographic information systems,* pp. 359 – 368, Seattle, WA, USA

Nguyen, K., Yang, J., **Lin, Y.**, Lin, J., Chiang, Y.-Y. and Shahabi, C. (2018). Los Angeles Metro Bus Data Analysis Using GPS Trajectory and Schedule Data (Demo Paper). In *Proceedings of the 26th ACM SIGSPATIAL international conference on advances in geographic information systems,* pp. 560 – 563, Seattle, WA, USA

**Lin, Y.**, Chiang, Y.-Y., Pan, F., Stripelis, D., Ambite, J. L., Eckel, S. P. and Habre, R. (2017). Mining Public Datasets for Modeling Intra-City PM2.5 Concentrations at a Fine Spatial Resolution. In *Proceedings of the 25th ACM SIGSPATIAL international conference on advances in geographic information systems*, Article No. 25, Redondo Beach, CA, USA

## Working Experience

AI/ML Scientist Intern, Technology Holding LLC., May. 2024 - Aug. 2024

Research Intern, Mentor: **John Krumm**, Microsoft Corporation, May. 2020 - Aug. 2020

Research Programmer, Spatial Sciences Institute (SSI), USC, Nov. 2017 - Aug. 2018

## Presentations[1]

SynMap: A Synthetic Dataset for Text Spotting in Scanned Historical Maps. **Lin, Y.**, Kim, J., Li, Z., Chiang, Y.-Y. *GeoAI and Deep Learning Symposium: GeoAI for Feature Detection and Recognition, AAG,* 2023

The mapKurator System: Extracting and Linking Text from Large Numbers of Historical Map Scans. Jang, L., Kim, J., Namgung, M., Shrotriya, T., **Lin, Y.**, Li, Z., Chiang, Y.-Y. *Machines Reading Maps Summit*, Stanford, 2023

Guest Speaker, Mining Public Online Data for Fine-Scale Air Quality Prediction, *USC SSCI680 Advanced Spatial Computing*, 2019 Fall

Guest Speaker, Recommendation System and Spatial Data Visualization, *Soongsil University Visit*, 2019 Summer

## Professional Services

Teaching Assistant

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|---|---|
| 2023 Spring | UMN Introduction to Data Mining (graduate level) |
| 2022 Fall | UMN Practice of Database Systems (undergraduate level) |
| 2022 Spring | UMN Spatial AI (graduate level) |
| 2019 - 2021 | USC Foundations and Applications of Data Mining (graduate level) |

Conference Peer-Review

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|---|---|
| 2024 | Pacific-Asia Conference on Knowledge Discovery and Data Mining |
| 2019 – 2022 | ACM SIGSPATIAL International Conference on Advances in Geographic Information Systems |
| 2022 - 2024 | SIAM International Conference on Data Mining |
| 2021 - 2024 | International Workshop on Health Intelligence |
| 2017 - 2022 | IEEE International Conference on Tools with Artificial Intelligence |
| 2021 | International Workshop on Methods, Models, and Resources for Geospatial Knowledge Graphs and GeoAI |
| 2020 | International Conference on Artificial Intelligence in Medicine |

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[1] The presentations with peer-reviewed publications are in the section of Publications.

<u>Journal Review</u>

International Journal of Geographical Information Science

GeoInformatica

Atmospheric Pollution Research

Environmental Technology & Innovation

International Journal of Applied Earth Observation and Geoinformation

Computer Networks