

CURRICULUM VITAE

Yijun Lin

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EDUCATION

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

HONORS AND AWARDS

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
2019 **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

Conference Proceedings

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*, Barcelona, Spain

Li, Z., **Lin, Y.**, Chiang, Y.-Y., Weinman, J., Tual, S., Chazalon, J., Perret, J., and Duménieu, B., and Abadie, N. (2024). ICDAR 2024 competition on historical map text detection, recognition, and linking. In *International Conference on Document Analysis and Recognition* (pp. 363-380). Springer Nature Switzerland.

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., **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

Book Chapters

- Chiang, Y.-Y., Chen, M., Duan, W., Kim, J., Knoblock, C. A., Leyk, S., Li, Z., **Lin, Y.**, Namgung, M., Shbita, B., & Uhl, J. H. (2023). GeoAI for the Digitization of Historical Maps. In *Handbook of Geospatial Artificial Intelligence* (pp. 217-247). CRC Press.
- 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

Refereed Journal Articles

- Gil, Y., Garijo, D., Khider, D., Knoblock, C. A., Ratnakar, V., Osorio, M., Vargas, H., Pham, M., Pujara, J., Shbita, B., Vu, B., Chiang, Y.-Y., Feldman, D., **Lin, Y.**, Song, H., Kumar, V., Khandelwal, A., Steinbach, M., Tayal, K., ... Shu, L. (2021). Artificial Intelligence for Modeling Complex Systems: Taming the Complexity of Expert Models to Improve Decision Making. *ACM Trans. Interact. Intell. Syst.*, 11(2), 1–49. doi.org/10.1145/3453172
- 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
- Li, K., Habre, R., Deng, H., Urman, R., Morrison, J., Gilliland, F. D., Ambite, J.-L., Stripelis, D., Chiang, Y.-Y., **Lin, Y.**, Bui, A. A. T., King, C., Hosseini, A., Van Vliet, E., Majid, S., Eckel, S. P. (2018). Applying Multivariate Segmentation Methods to Human Activity Recognition from Wearable Sensors Data. *JMIR mHealth and uHealth*, 7(2): e11201. doi: 10.2196/11201

TEACHING

Instructor

2025 Spring University of Minnesota, Introduction to Data Mining (graduate level)

Teaching Assistant

2023 Spring University of Minnesota, Introduction to Data Mining (graduate level)
2022 Fall University of Minnesota, Practice of Database Systems (undergraduate level)
2022 Spring University of Minnesota, Spatial AI (graduate level)
2019 – 2021 University of Southern California, Foundations and Applications of Data Mining (graduate level)

WORK 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

Invited Presentations

Lin, Y. and Chiang, Y.-Y. (September 2024). Anomaly Detection on Time-series Data. Data Science and Physics/Astro workshops, University of Minnesota.
Lin, Y. (January 2024). Modeling Spatially Varying Physical Dynamics for Spatiotemporal Predictive Learning. Intelligent IoT Research Center, Shanghai JiaoTong University, Shanghai, China.
Lin, Y. (January 2024). Modeling Spatially Varying Physical Dynamics for Spatiotemporal Predictive Learning. Research Center for Humanities and Social Sciences (RCHSS), Taipei, Taiwan.

Conference Presentations¹

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

Posters and Exhibitions

Lin, Y. (November 2023). Modeling Spatially Varying Physical Dynamics for Spatiotemporal Predictive Learning, CS&E Research Showcase, University of Minnesota.
Jang, L., Kim, J., Namgung, M., Shrotriya, T., **Lin, Y.**, Li, Z., and Chiang, Y.-Y. (April 2023). The mapKurator System: Extracting and Linking Text from Large Numbers of Historical Map Scans. *Machines Reading Maps Summit*, Stanford University.
Li, Z., Duan, W., **Lin, Y.**, Lin, F., Shrotriya, T., Chiang, Y.-Y., and Knoblock, C. (April 2023). Unearthing Hidden Treasures: Detecting Critical Minerals from Historical Maps. *The MSI Research Exhibition*, University of Minnesota.
Lin, Y., Luo, T., Talghader, J., Chiang, Y.-Y., and Bond, D. (April 2023). Large Scale Data Extraction from Population Sampling of Dispersed Waterborne Photovoltaic Microparticles. *SIAM International Conference on Data Mining*, Minneapolis, Minnesota, USA.
Lin, Y. (July 2017). Linking Historical Maps to the USC Shoah Foundation Visual History Archive. *The 28th International Cartographic Conference*, Washington, DC, USA.

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

PROFESSIONAL SERVICES

Conference/Competition Organization

2024 ICDAR Competition on Historical Map Text Detection, Recognition, and Linking ([link](#)).
The organizers are from the University of Minnesota (USA), Grinnell College (Iowa, USA), EPITA Research Lab, and LASTIG lab (Univ. Gustave Eiffel, ENSG, IGN, LASTIG).

PC Member

2025 Pacific-Asia Conference on Knowledge Discovery and Data Mining
2025 SIAM International Conference on Data Mining
2024 Pacific-Asia Conference on Knowledge Discovery and Data Mining
2024 SIAM International Conference on Data Mining

Conference Sub Reviewer

2019 – 2022 ACM SIGSPATIAL International Conference on Advances in Geographic Information Systems
2022 – 2023 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

Journal Review

International Journal of Geographical Information Science
GeoInformatica
Atmospheric Pollution Research
Environmental Technology & Innovation
International Journal of Applied Earth Observation and Geoinformation