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**Education**

PhD, University of Rochester, United States, 2026
Master of Science, University of Rochester, United States, 2020
Bachelor of Economics, Fudan University, China, 2017

Academic Appointments

Assistant Professor of Computer Science, School of Computing and Information Systems, SMU, Jul 2026 - Present

Awards and Honors

Google PhD Fellowship, 2024
Donald M. and Janet C. Barnard Fellowship, 2023

RESEARCH**Research Interests**

Computational Social Science
Graph Learning
Multimedia
Health Informatics
AI and Society

PublicationsJournal Articles [Refereed]

GPT-4V(ision) as a social media analysis engine, by LYU*, Hanjia; HUANG*, Jinfa; ZHANG*, Daoan; YU*, Yongsheng; MOU*, Xinyi; PAN, Jinsheng; YANG, Zhengyuan; WEI, Zhongyu; LUO, Jiebo. (2025). *ACM Transactions on Intelligent Systems and Technology*, 16 (3). <https://doi.org/10.1145/3709005> (Published)

- Excitements and concerns in the post-ChatGPT era: Deciphering public perception of AI through social media analysis, by QI, Weihong; PAN, Jinsheng; LYU, Hanjia; LUO, Jiebo. (2024). *Telematics and Informatics*. <https://doi.org/10.1016/j.tele.2024.102158> (Published)
- Learning to evaluate the artness of AI-generated images, by CHEN, Junyu; AN, Jie; LYU, Hanjia; KANAN, Christopher; LUO, Jiebo. (2024). *IEEE Transactions on Multimedia*. <https://doi.org/10.1109/TMM.2024.3410672> (Published)
- Human behavior in the time of COVID-19: Learning from big data, by LYU, Hanjia; IMTIAZ, Arsal; ZHAO, Yufei; LUO, Jiebo. (2023). *Frontiers in Big Data*, 6, 1099182. <https://doi.org/10.3389/fdata.2023.1099182> (Published)
- American Twitter users revealed social determinant-related oral health disparities amid the COVID-19 pandemic, by FAN, Yangxin; LYU, Hanjia; XIAO, Jin; LUO, Jiebo. (2023). *Quintessence International*, 54 (1). <https://doi.org/10.3290/j.qi.b3479979> (Published)
- Misinformation versus facts: Understanding the influence of news regarding COVID-19 vaccines on vaccine uptake, by LYU, Hanjia; ZHENG, Zihe; LUO, Jiebo. (2022). *Health Data Science*. <https://doi.org/10.34133/2022/9858292> (Published)
- Understanding public opinion toward the #StopAsianHate movement and the relation with racially motivated hate crimes in the US, by LYU, Hanjia; FAN, Yangxin; XIONG, Ziyu; KOMISARCHIK, Mayya; LUO, Jiebo. (2021). *IEEE Transactions on Computational Social Systems*. <https://doi.org/10.1109/TCSS.2021.3136858> (Published)
- Social media study of public opinions on potential COVID-19 vaccines: informing dissent, disparities, and dissemination, by LYU, Hanjia; WANG, Junda; WU, Wei; DUONG, Viet; ZHANG, Xiyang; DYE, Timothy D.; LUO, Jiebo. (2022). *Intelligent Medicine*, 2 (1), 1-12. <https://doi.org/10.1016/j.imed.2021.08.001> (Published)
- Social media opinions on working from home in the United States during the COVID-19 pandemic: Observational study, by XIONG, Ziyu; LI, Pin; LYU, Hanjia; LUO, Jiebo. (2021). *JMIR Medical Informatics*, 9 (7), e29195. <https://doi.org/10.2196/29195> (Published)
- Characterizing discourse about COVID-19 vaccines: A Reddit version of the pandemic story, by WU, Wei; LYU, Hanjia; LUO, Jiebo. (2021). *Health Data Science*. <https://doi.org/10.34133/2021/9837856> (Published)
- What contributes to a crowdfunding campaign's success? Evidence and analyses from GoFundMe data, by ZHANG, Xupin; LYU, Hanjia; LUO, Jiebo. (2021). *Journal of Social Computing*, 2 (2), 183-192. <https://doi.org/10.23919/JSC.2021.0010> (Published)
- The influence of COVID-19 on the well-being of people: Big data methods for capturing the well-being of working adults and protective factors nationwide, by ZHANG, Xiyang; WANG, Yu; LYU, Hanjia; ZHANG, Yipeng; LIU, Yubao; LUO, Jiebo. (2021). *Frontiers in Psychology*, 12, 681091. <https://doi.org/10.3389/fpsyg.2021.681091> (Published)
- Monitoring depression trends on Twitter during the COVID-19 pandemic: Observational study, by ZHANG, Yipeng; LYU, Hanjia; LIU, Yubao; ZHANG, Xiyang; WANG, Yu; LUO, Jiebo. (2021). *JMIR Infodemiology*, 1 (1), e26769. <https://doi.org/10.2196/26769> (Published)
- Insurtech development: Evidence from Chinese media reports, by CAO, Siqing; LYU, Hanjia; XU, Xian. (2020). *Technological Forecasting and Social Change*, 161, 120277. <https://doi.org/10.1016/j.techfore.2020.120277> (Published)
- Sense and sensibility: Characterizing social media users regarding the use of controversial terms for COVID-19, by LYU, Hanjia; CHEN, Long; WANG, Yu; LUO, Jiebo. (2020). *IEEE Transactions on Big Data*, 7 (6), 952-960. <https://doi.org/10.1109/TBDDATA.2020.2996401> (Published)

Conference Proceedings

- Building human-aligned AI through representation augmentation and structuring, by LYU, Hanjia. (2026). In *Proceedings of the Nineteenth ACM International Conference on Web Search and Data Mining (WSDM '26)*. Association for Computing Machinery. <https://doi.org/10.1145/3773966.3784981> (Published)
- Characterizing bias: Benchmarking large language models in simplified versus traditional Chinese, by LYU, Hanjia; LUO, Jiebo; KANG, Jian; KOENECKE, Allison. (2025). In *Proceedings of the 2025 ACM Conference on Fairness, Accountability, and Transparency (FAccT '25)*, 2815-2846. Association for Computing Machinery. <https://doi.org/10.1145/3715275.3732182> (Published)
- INS-MMBench: A comprehensive benchmark for evaluating LVLMs' performance in insurance, by LIN, Chenwei; LYU, Hanjia; XU, Xian; LUO, Jiebo. (2025). In *2025 IEEE/CVF International Conference on Computer Vision (ICCV)*. (Published)
- Assessing Historical Structural Oppression Worldwide via Rule-Guided Prompting of Large Language Models, by CHATTERJEE, Sreejato; TRAN, Linh; NGUYEN, Quoc Duy; KIRSON, Roni; HAMLIN, Drue; AQUINO, Harvest; LYU, Hanjia; LUO, Jiebo; DYE, Timothy. (2025). In *2025 IEEE International Conference on Big Data (BigData)*. (Published)
- Irony in Emojis: A Comparative Study of Human and LLM Interpretation, by ZHENG, Yawen; LYU, Hanjia; LUO, Jiebo. (2025). In *2025 IEEE International Conference on Big Data (BigData)*. (Published)
- From selection to generation: A survey of LLM-based active learning, by XIA, Yu; MUKHERJEE, Subhojyoti; XIE, Zhouhang; WU, Junda; LI, Xintong; APONTE, Ryan; LYU, Hanjia; BARROW, Joe; CHEN, Hongjie; DERNONCOURT, Franck; et al. (2025). In *Proceedings of the 63rd Annual Meeting of the Association for Computational Linguistics*. (Published)
- GUI agents: A survey, by NGUYEN, Dang; CHEN, Jian; WANG, Yu; WU, Gang; PARK, Namyong; HU, Zhengmian; LYU, Hanjia; WU, Junda; APONTE, Ryan; XIA, Yu; et al. (2025). In *Findings of the Association for Computational Linguistics: ACL 2025*. (Published)
- Empower K-12 teachers to create ML-supported scientific inquiries, by ZHOU, Xiaofei; LYU, Hanjia; SA, Yuxin; LI, Mengfan; SARKAR, Advait; LUO, Jiebo; DALEY, Michael; BAI, Zhen. (2025). In *International Conference on Artificial Intelligence in Education (AIED)*. (Published)
- Representation bias in political sample simulations with large language models, by QI, Weihong; LYU, Hanjia; LUO, Jiebo. (2025). In *Companion Proceedings of the ACM on Web Conference 2025 (WWW '25)*, 1264-1267. Association for Computing Machinery. <https://doi.org/10.1145/3701716.3715591> (Published)
- Evolver: Chain-of-evolution prompting to boost large multimodal models for hateful meme detection, by HUANG*, Jinfa; PAN*, Jinsheng; WAN, Zhongwei; LYU, Hanjia; LUO, Jiebo. (2025). In *The 31st International Conference on Computational Linguistics (COLING)*. (Published)
- LLM-Rec: Personalized recommendation via prompting large language models, by LYU, Hanjia; JIANG, Song; ZENG, Hanqing; XIA, Yinglong; WANG, Qifan; ZHANG, Si; CHEN, Ren; LEUNG, Chris; TANG, Jiajie; LUO, Jiebo. (2024). In *Findings of the Association for Computational Linguistics: NAACL 2024*, 583-612. Association for Computational Linguistics. <https://doi.org/10.18653/v1/2024.findings-naacl.39> (Published)
- Mixture of weak & strong experts on graphs, by ZENG*, Hanqing; LYU*, Hanjia; HU, Diyi; XIA, Yinglong; LUO, Jiebo. (2024). In *The Twelfth International Conference on Learning Representations (ICLR)*. (Published)
- Computational assessment of hyperpartisanship in news titles, by LYU*, Hanjia; PAN*, Jinsheng; WANG*, Zichen; LUO, Jiebo. (2024). *Proceedings of the International AAAI Conference on Web and Social Media*, 18 (1), 999-1012. <https://doi.org/10.1609/icwsm.v18i1.31368> (Published)
- Human vs. LMMs: Exploring the discrepancy in emoji interpretation and usage in digital communication, by LYU*, Hanjia; QI*, Weihong; WEI, Zhongyu; LUO, Jiebo. (2024). In *AAAI International Conference on Web and Social Media (ICWSM)*. (Published)

- Towards advancing text-based user and item representation in personalized recommendation, by LYU, Hanjia. (2024). In *Proceedings of the 33rd ACM International Conference on Information and Knowledge Management (CIKM '24)*. <https://doi.org/10.1145/3627673.3680270> (Published)
- Semantics Preserving Emoji Recommendation with Large Language Models, by QIU, Zhongyi; QIU, Kangyi; LYU, Hanjia; XIONG, Wei; LUO, Jiebo. (2024). In *2024 IEEE International Conference on Big Data (BigData)*, 7131-7140. IEEE Computer Society. <https://doi.org/10.1109/BigData62323.2024.10825696> (Published)
- In the eyes of the bystander: Are the stances on different conflicts correlated?, by TAO, Yiyao; ZHANG, Hengyu; DEY, Bali; TULGA, Selenge; LYU, Hanjia; LUO, Jiebo. (2024). In *Special Session on Intelligent Data Mining, IEEE Big Data Conference*. (Published)
- CRTRE: Causal rule generation with target trial emulation framework, by WANG, Junda; LI, Weijian; WANG, Han; LYU, Hanjia; THIRUKUMARAN, Caroline; MESFIN, Addisu; YU, Hong; LUO, Jiebo. (2024). In *IEEE Big Data Conference*. (Published)
- A benchmark and chain-of-thought prompting strategy for large multimodal models with multiple image inputs, by ZHANG*, Daoan; YANG*, Junming; LYU*, Hanjia; JIN, Zijian; YAO, Yuan; CHEN, Mingkai; LUO, Jiebo. (2024). In *International Conference on Pattern Recognition (ICPR)*. (Published)
- SoMeLVLM: A large vision language model for social media processing, by ZHANG, Xinnong; KUANG, Haoyu; MOU, Xinyi; LYU, Hanjia; WU, Kun; CHEN, Siming; LUO, Jiebo; HUANG, Xuanjing; WEI, Zhongyu. (2024). In *Findings of the Association for Computational Linguistics: ACL 2024*, 2366-2389. Association for Computational Linguistics. <https://doi.org/10.18653/v1/2024.findings-acl.140> (Published)
- Holistic visual-textual sentiment analysis with prior models, by CHEN, Junyu; AN, Jie; LYU, Hanjia; KANAN, Christopher; LUO, Jiebo. (2024). In *2024 IEEE 7th International Conference on Multimedia Information Processing and Retrieval (MIPR)*. <https://doi.org/10.1109/MIPR62202.2024.00037> (Published)
- Creating an authoring tool for K-12 teachers to design ML-supported scientific inquiry learning, by ZHOU, Xiaofei; TANG, Jingwan; LYU, Hanjia; LIU, Xinyi; ZHANG, Zhenhao; QIN, Lichen; AU, Fiona; SARKAR, Advait; BAI, Zhen. (2024). In *Late Breaking Papers: ACM Conference on Human Factors in Computing Systems (CHI)*. <https://doi.org/10.1145/3613905.3650762> (Published)
- Unifying local and global knowledge: Empowering large language models as political experts with knowledge graphs, by MOU, Xinyi; LI, Zejun; LYU, Hanjia; LUO, Jiebo; WEI, Zhongyu. (2024). In *Proceedings of the ACM Web Conference 2024 (WWW '24)*, 2603-2614. Association for Computing Machinery. <https://doi.org/10.1145/3589334.3645616> (Published)
- Applying machine learning to predict esophageal cancer recurrence after esophagectomy, by LYU*, Hanjia; KAPCIO*, Kevin C.; PURRMAN, Kyle C.; PEYRE, Christian G.; JONES, Carolyn E.; LADA, Michal J.; LUO, Jiebo. (2023). In *IEEE International Conference on Digital Health (ICDH)*. <https://doi.org/10.1109/ICDH60066.2023.00044> (Published)
- Understanding divergent framing of the supreme court controversies: Social media vs. news outlets, by PAN, Jinsheng; WANG, Zichen; QI, Weihong; LYU, Hanjia; LUO, Jiebo. (2023). In *Special Session on Intelligent Data Mining, IEEE Big Data Conference*. <https://doi.org/10.1109/BigData59044.2023.10386532> (Published)
- A fine-grained analysis of public opinion toward Chinese technology companies on Reddit, by ZHOU, Enting; LIU, Yurong; LYU, Hanjia; LUO, Jiebo. (2023). In *Special Session on Intelligent Data Mining, IEEE Big Data Conference*. <https://doi.org/10.1109/BigData59044.2023.10386804> (Published)
- Wyze rule: Federated rule dataset for rule recommendation benchmarking, by KAMANI, Mohammad Mahdi; YAO, Yuhang; LYU, Hanjia; CHENG, Zhongwei; CHEN, Lin; LI, Liangju; JOE-WONG, Carlee; LUO, Jiebo. (2023). In *Thirty-seventh Conference on Neural Information Processing Systems (NeurIPS)*. (Published)
- Dismantling hate: Understanding hate speech trends against NBA athletes, by KLUTSE, Edinam Kofi; NUAMAH-AMOABENG, Samuel; LYU, Hanjia; LUO, Jiebo. (2023). In *International Conference on Social Computing, Behavioral-*

Cultural Modeling & Prediction and Behavior Representation in Modeling and Simulation (SBP-BRiMS).

https://doi.org/10.1007/978-3-031-43129-6_8 (Published)

Predicting adverse neonatal outcomes for preterm neonates with multi-task learning, by LIN, Jingyang; CHEN, Junyu; LYU, Hanjia; KHODAK, Igor; CHHABRA, Divya; RICHARDSON, Colby L. Day; PRELIPCEAN, Irina; DYLAG, Andrew M.; LUO, Jiebo. (2023). In *IEEE International Conference on Digital Health (ICDH)*.

<https://doi.org/10.1109/ICDH60066.2023.00045> (Published)

How art-like are AI-generated images? An exploratory study, by CHEN, Junyu; AN, Jie; LYU, Hanjia; LUO, Jiebo. (2023). In *Proceedings of the 1st International Workshop on Multimedia Content Generation and Evaluation (McGE '23)*, 19-22. Association for Computing Machinery. <https://doi.org/10.1145/3607541.3616825> (Published)

Bias or diversity? Unraveling fine-grained thematic discrepancy in U.S. news headlines, by PAN, Jinsheng; QI, Weihong; WANG, Zichen; LYU, Hanjia; LUO, Jiebo. (2023). In *Workshop on News Media and Computational Journalism, MEDIATE, AAAI International Conference on Web and Social Media (ICWSM)*. (Published)

ML-SD modeling: How machine learning can support scientific discovery learning for K-12 STEM education, by ZHOU, Xiaofei; LYU, Hanjia; LUO, Jiebo; BAI, Zhen. (2023). In *Artificial Intelligence for Education Workshop AI4Edu, AAAI Conference on Artificial Intelligence (AAAI)*. (Published)

Doctors vs. nurses: Understanding the great divide in vaccine hesitancy among healthcare workers, by AHAMED, Sajid Hussain Rafi; SHAKIL, Shahid; LYU, Hanjia; ZHANG, Xinping; LUO, Jiebo. (2022). In *Special Session on Intelligent Data Mining, IEEE Big Data Conference*. <https://doi.org/10.1109/BigData55660.2022.10020853> (Published)

Understanding political polarization via jointly modeling users, connections and multimodal contents on heterogeneous graphs, by LYU, Hanjia; LUO, Jiebo. (2022). In *Proceedings of the 30th ACM International Conference on Multimedia (MM '22)*, 4072-4082. Association for Computing Machinery.

<https://doi.org/10.1145/3503161.3547898> (Published)

Learning to aggregate and refine noisy labels for visual sentiment analysis, by ZHU, Wei; ZHENG, Zihe; ZHENG, Haitian; LYU, Hanjia; LUO, Jiebo. (2022). In *International Conference on Pattern Recognition (ICPR)*.

<https://doi.org/10.1109/ICPR56361.2022.9956328> (Published)

Challenges and design opportunities in data analysis for ML-empowered scientific inquiry – insights from a teacher professional development study, by ZHOU, Xiaofei; TANG, Jingwan; GUO, Beilei; LYU, Hanjia; LUO, Jiebo. (2022). In *International Conference of the Learning Sciences (ICLS)*. (Published)

Taking sides: Public opinion over the Israel-Palestine conflict in 2021, by IMTIAZ, Aarsal; KHAN, Danish; LYU, Hanjia; LUO, Jiebo. (2022). In *International Workshop on Social Sensing, SocialSens: Special Edition on Belief Dynamics, AAAI International Conference on Web and Social Media (ICWSM)*. (Published)

Look behind the censorship: Reposting-user characterization and muted-topic restoration, by QIAN, Yichi; SHAN, Qiyi; LYU, Hanjia; LUO, Jiebo. (2022). In *International Workshop on Social Sensing, SocialSens: Special Edition on Belief Dynamics, AAAI International Conference on Web and Social Media (ICWSM)*. (Published)

From static to dynamic prediction: Wildfire risk assessment based on multiple environmental factors, by JIANG, Tanqiu; BENDRE, Sidhant; LYU, Hanjia; LUO, Jiebo. (2021). In *Special Session on Intelligent Data Mining, IEEE Big Data Conference*. <https://doi.org/10.1109/BigData52589.2021.9672044> (Published)

Understanding the hoarding behaviors during the COVID-19 pandemic using large scale social media data, by ZHANG, Xupin; LYU, Hanjia; LUO, Jiebo. (2021). In *Special Session on Intelligent Data Mining, IEEE Big Data Conference*. <https://doi.org/10.1109/BigData52589.2021.9671533> (Published)

Fine-grained analysis of the use of neutral and controversial terms for COVID-19 on social media, by CHEN, Long; LYU, Hanjia; YANG, Tongyu; WANG, Yu; LUO, Jiebo. (2021). In *International Conference on Social Computing, Behavioral-Cultural Modeling & Prediction and Behavior Representation in Modeling and Simulation (SBP-BRiMS)*. https://doi.org/10.1007/978-3-030-80387-2_6 (Published)

How political is the spread of COVID-19 in the United States? An analysis using transportation and weather data, by VOMBATKERE, Karan; LYU, Hanjia; LUO, Jiebo. (2021). In *International Conference on Social Computing, Behavioral-Cultural Modeling & Prediction and Behavior Representation in Modeling and Simulation (SBP-BRIMS)*. https://doi.org/10.1007/978-3-030-80387-2_2 (Published)

EXTERNAL SERVICE – PROFESSIONAL

Senior Program Committee, International AAAI Conference on Web and Social Media (ICWSM), 2026-2027

Session Chair, International AAAI Conference on Web and Social Media (ICWSM), 2026

Area Chair, Annual Conference of the North American Chapter of the Association for Computational Linguistics (NAACL), 2025

Area Chair, Conference on Empirical Methods in Natural Language Processing (EMNLP), 2024

Session Chair, ACM International Conference on Information and Knowledge Management (CIKM), 2024

Guest Editor, Frontiers in Public Health

Guest Editor, ACM Transactions on Multimedia Computing, Communications, and Applications