# Kang Zhao

W220 PBB, The University of Iowa. Iowa City, IA 52242, USA.
Email: <u>kang-zhao@uiowa.edu</u> Web: <u>http://www.kangzhao.net</u>

**RESEARCH INTERESTS** 

Phone: (319) 335-3831

Data science for social networks and social media, people analytics, organizational and supply chain networks.

# **PROFESSIONAL EXPERIENCE**

Leonard A. Hadley Professor	2024 - Present
Department Head	2023 - Present
Professor and Tippie Research Fellow	2023 - 2024
Associate Professor (Tenured) and Tippie Research Fellow	2018 - 2023
Assistant Professor (Tenure-track)	2012 - 2018
Department of Business Analytics, Tippie College of Business	
Affiliated Faculty Member of the Interdisciplinary Graduate Program in Informatics The University of Iowa, Iowa City, IA.	(IGPI)
<ul> <li>Visiting Researcher Institute of Automation, Chinese Academy of Sciences Beijing, China.</li> </ul>	2019 - 2020
<ul> <li>Graduate Research and Teaching Assistant College of Information Sciences and Technology (IST) Penn State University, University Park, PA.</li> </ul>	2007 - 2012
• Graduate Research Assistant Institute for Geospatial Research and Education Eastern Michigan University, Ypsilanti, MI.	2004 - 2006
EDUCATION	
• The Pennsylvania State University, University Park, PA, USA. Ph.D., Information Sciences and Technology, 2012.	
<ul> <li>Santa Fe Institute, Santa Fe, NM, USA. Complex Systems Summer School, 2010. (Awarded full financial support.)</li> </ul>	
• Eastern Michigan University, Ypsilanti, MI, USA. M.S., Computer Science, 2006.	
• Beijing Institute of Technology, Beijing, China. B.E. (with Honor), Electrical Engineering, 2003.	
HONORS AND AWARDS	
Ambassador Award (2024)	
Journal of Operations Management.	
Top Cited Article of 2022-2023	
Journal of the Association for Information Science and Technology.	
• MSBA Instructor of the Year (December 2023)	
Tippie College of Business, The University of Iowa.	

- Charles A. Taff Research Excellence Award (2023) Tippie College of Business, The University of Iowa.
- MSBA Instructor of the Year (December 2022)
  - Tippie College of Business, The University of Iowa.
- Top Cited Article of 2021-2022

Journal of the Association for Information Science and Technology.

- Top Downloaded Article of 2021
  - Journal of the Association for Information Science and Technology.
- SSRN Top Ten Download List (February 2021)
  - SSRN Information and Library Science Research Network.
- Top Cited Article (2019-2020)
  - Journal of Operations Management.
- Honor Thesis Mentor Award (2019)
   Tippie Business Honor Society, The University of Iowa.
- Best Paper Award (2017)

INFORMS Data Science Workshop.

- Featured in the University of Iowa "Dare to Discover" campaign (2017) The University of Iowa.
- Early Career Research Award (2016) Tippie College of Business, The University of Iowa.
- R.W. Graham Endowed Graduate Fellowship (2007) Penn State University.

**JOURNAL ARTICLES** (\* indicates current or former students I advised, co-advised or mentored)

- [J.52] Ou, G.\*, Zhao, K., Zuo, R., and Wu, J. "Effects of Research Funding on the Academic Impact and Societal Visibility of Scientific Research," *Journal of Informetrics* (18:4), 2024, pp 101592.
- [J.51] He, S., Zhang, W., Luo, J., Zhang, P., Zhao, K., Zeng, D., "Modeling the Co-diffusion of Competing Memes in Online Social Networks," *Decision Support Systems* (187), 2024, pp 114324.
- [J.50] Bai, J., Zhao, K., Li, L., Zeng, D., Li, Q., and Yang, F. "Graph Representation Learning Based on Cognitive Spreading Activations," *IEEE Transactions on Knowledge and Data Engineering* (36:Dec), 2024, pp 8408-8420.
- [J.49] Namdar, J., Blackhurst, J., Zhao, K. and Song, S. "Cascading Disruptions: Impact of Network Features and Nexus Supplier Predictions," *Journal of Supply Chain Management* (60:3), 2024, pp 18-38.
- [J.48] Wang, Xiangyu\*, Zhao, K., Amato, M.S., Graham, A.L., Stanton, C.A., and Shuter, J. "Jumpstarting Online Interactions to Promote Smoking Cessation Among People with HIV: The Role of Seed Users in Nurturing an Online Health Community," *Annals of Behavioral Medicine* (58:2), 2024, pp 122-130.
- [J.47] Hu, Y., Zhang, P., Zhao, K., and Zhang, S. "Disruption Recovery for the Pickup and Delivery Problem with Time Windows--A Scenario-based Approach for Online Food Delivery," *Computers and Operations Research* (159), 2023, pp 106337.
- [J.46] Yang, Y., Zhang, C., Zhao, K., and Wang, Q. "The Shifting Role of Information Processing and Management in Interdisciplinary Development: From a Collection of Tools to a Crutch," *Information Processing & Management*, (60:4), 2023, pp 103388.
- [J.45] Gao, G., Liu, H., and Zhao, K. "Live Streaming Recommendations Based on Dynamic Representation Learning," *Decision Support Systems*, (169), 2023, pp 113957.

- [J.44] Yang, Y., Zhao, K., Zeng, D. and Jensen, J. "Time-varying effects of search engine advertising on sales–An empirical investigation in E-commerce," *Decision Support Systems* (163), 2022, pp 113843.
- [J.43] Zhao, K., Wu. J and Neumann, D. "Business Analytics for Social Goods." *Electronic Commerce Research and Applications* (54: July-August) 2022, pp 101168.
- [J.42] Wu, J., Zuo, R., He, C., Xiong, H., Zhao, K., and Hu, Z. "The Effect of Information Literacy Heterogeneity on Epidemic Spreading in Information and Epidemic Coupled Multiplex Networks." *Physica A: Statistical Mechanics and its Applications* (596), 2022, 127119.
- [J.41] Tian, H., Zheng, X., Zhao, K., Liu, W., and Zeng, D. "Inductive Representation Learning on Dynamic Stock Co-Movement Graphs for Stock Predictions." *INFORMS Journal on Computing* (34:4), 2022, pp 1940-1957.
- [J.40] Wang, Xiangyu\*, Zhang, M., W. Fan, and Zhao, K. "Understanding the Spread of COVID-19 Misinformation on Social Media--The Effects of Topics and a Political Leader's Nudge." *Journal of the Association for Information Science and Technology* (73:5), 2022, pp 726-737. (Top downloaded article in Journal of the Association for Information Science and Technology for 2021. Top Cited Article in Journal of the Association for Information Science and Technology, 2022-2023.)
- [J.39] Yang, J., Tang, K., Cao, Z., Pfeiffer, D., Zhao, K., Zhang, Q., and Zeng, D. "Demand-Driven Spreading Patterns of African Swine Fever in China." *Chaos: An Interdisciplinary Journal of Nonlinear Science* (31:6), 2021, pp 061102.
- [J.38] Wang, Xiangyu\*., High, A., Wang, Xi\*., and Zhao, K. "Predicting Users' Continued Engagement in Online Health Communities from the Quantity and Quality of Received Support." *Journal of the Association for Information Science and Technology* (72:6), 2021, pp 710-722. (Top cited article 2021-2022 in Journal of the Association for Information Science and Technology)
- [J.37] Wen, W., Zeng, D., Bai, J., Zhao, K., and Li, Z. "Learning Embeddings Based on Global Structural Similarity in Heterogeneous Networks." *IEEE Intelligent Systems* (36:6), 2021, pp 13-22.
- [J.36] Zuo, Z.\* and Zhao, K. "Understanding and Predicting Future Research Impact at Different Career Stages--A Social Network Perspective." *Journal of the Association for Information Science and Technology* (72:4), 2021, pp 454-472.
- [J.35] Wang, Xi\*, Zhang, Y., Wang, S., and Zhao, K. "Migrant Inflows and Online Expressions of Regional Prejudice in China: Findings from a Social Media Site." *Public Opinion Quarterly* (85:1), 2021, pp 123-146.
- [J.34] Wang, Xiangyu\*, Zhao, K., Zhou, X., and Street, N.W. "Predicting User Posting Activities in Online Health Communities with Deep Learning." *ACM Transactions on Management Information Systems*, (11:3), 2020, Article 12.
- [J.33] Sun, L., Zhao, K., Han, C., and Liu, Z. "Enhancing Hyperspectral Unmixing with Two-stage Multiplicative Update Nonnegative Matrix Factorization." *IEEE Access* (7), 2019, pp 171023-171031.
- [J.32] Bigsby, K.G.\*, Ohlmann, J.W., and Zhao, K. "Keeping It 100: Social Media and Self-presentation in College Football Recruiting." *Big Data* (7:1), 2019, pp 3-20.
- [J.31] Zuo, Z.\*, Zhao, K., and Ni, C., "Standing on the Shoulders of Giants?--Faculty Hiring in Information Schools." *Journal of Informetrics*. (13:1), 2019, pp 341-353.
- [J.30] Zuo, Z.\*, Qian, H., and Zhao, K. "Understanding the Field of Public Affairs through the Lens of Ranked Ph.D. Programs in the United States." *Policy Studies Journal*, (47:S1), 2019, pp 159-180.

- [J.29] Wang, Xi\*, Zhao, K., Cha, S., Amato, M.S., Cohn, A.M., Pearson, J.L., Papandonatos, G.D., and Graham, A.L. "Mining User-Generated Content in an Online Smoking Cessation Community to Identify Smoking Status: A Machine Learning Approach." *Decision Support Systems* (116), 2019, pp 26-34.
- [J.28] Cohn, A.M., Amato, M.S., Zhao, K., Wang, Xi\*, Cha, S., Pearson, J.L., Papandonatos, G.D., and Graham, A.L., "Discussions of Alcohol Use in an Online Social Network for Smoking Cessation: Analysis of Topics, Sentiment, and Social Network Centrality." *Alcoholism-Clinical and Experimental Research* (43:1), 2019, pp108-114.
- [J.27] Bigsby, K.G.\*, Ohlmann, J.W., and Zhao, K. "The Turf is Greener on the Other Side: Predicting Decommitments in College Football Recruiting Using Social Network Data." *Decision Support Systems* (116), 2019, pp 1-12.
- [J.26] Zhao, K., Zuo, Z.\*, and Blackhurst, J. "Modelling Supply Chain Adaptation for Disruptions: An Empirically Grounded Complex Adaptive Systems Approach," *Journal of Operations Management* (65:2), 2019, pp 190-212. (Top cited article 2019-2020 in the Journal of Operations Management)
- [J.25] Amato, M.S., Papandonatos, G.D., Cha, S., Wang, Xi\*, Zhao, K., Cohn, A.M., Pearson, J.L., Graham, A.L. "Inferring Smoking Status from User Generated Content in an Online Cessation Community." *Nicotine and Tobacco Research* (21:2), 2019, pp 205-211.
- [J.24] Zhao, K., Scheibe, K., Blackhurst, J., and Kumar, A. "Supply Chain Network Robustness Against Disruptions: Topological Analysis, Measurement, and Optimization." *IEEE Transactions on Engineering Management* (66:1), 2019, pp 127-139.
- [J.23] Pearson J.L., Amato M.S., Papandonatos G.D., Zhao K., Erar B., Wang Xi\*, Cha S., Cohn A.M., Graham A.L. "Exposure to Positive Peer Sentiment about Nicotine Replacement Therapy in an Online Social Network for Smoking Cessation is Associated with NRT Use." *Addictive Behaviors* (87), 2018, pp 39-45.
- [J.22] Zuo, Z.\*, and Zhao, K. "The More Multidisciplinary the Better? --The Prevalence and Interdisciplinarity of Research Collaborations in Multidisciplinary Institutions." *Journal of Informetrics* (12:3), 2018, pp 736-756.
- [J.21] Graham, A.L., Zhao, K., Papandonatos, G.D., Erar, B., Wang, Xi\*, Cha, S., Cohn, A.M., Pearson, J.L., and, Amato, M.S. "A Prospective Examination of Online Social Network Dynamics and Smoking Cessation." *PLOS ONE* (12:8), 2017, e0183655.
- [J.20] Bigsby, K.G.\*, Ohlmann, J.W., and Zhao, K. "Online and Off the Field: Predicting School Choice in College Football Recruiting from Social Media Data." *Decision Analysis* (14:4), 2017, pp 261-273.
- [J.19] Cohn, A.M., Zhao, K., Cha, S., Wang, Xi\*, Amato, M.S., Pearson, J.L., Papandonatos, G.D., and Graham, A.L. "A Descriptive Study of the Prevalence and Typology of Alcohol-related Posts in an Online Social Network for Smoking Cessation." *Journal of Studies on Alcohol and Drugs* (78:5), 2017, pp 665-673.
- [J.18] Wang, Xi\*, Zhao, K., and Street, N. "Analyzing and Predicting User Participations in Online Health Communities--A Social Support Perspective." *Journal of Medical Internet Research* (19:4), 2017, e130.
- [J.17] Graham, A.L., Papandonatos, G.D., and Zhao, K. "The Failure to Increase Social Support: It Just Might be Time to Stop Intervening (and Start Rigorously Observing)." *Translational Behavioral Medicine* (7:4), 2017, pp 816-820.

- [J.16] Zuo, Z.\*, Zhao, K., and Eichmann, D. "The State and Evolution of U.S. iSchools: from Talent Acquisitions to Research Outcome." *Journal of the Association for Information Science and Technology* (*JASIST*) (68:5), 2017, pp 1266-1277.
- [J.15] Pearson, J.L., Amato, M.S., Wang, Xi\*, Zhao, K., Cha, S., Cohn, A.M., Papandonatos, G.D., and Graham, A.L., "How U.S. Smokers Refer to e-cigarettes: An Examination of User-generated Posts from a Web-based Smoking Cessation Intervention, 2008-2015." *Nicotine and Tobacco Research* (19:2), 2016, pp 253-257.
- [J.14] Lash, M.\*, and Zhao, K. "Early Predictions of Movie Success: the Who, What, and When of Profitability." *Journal of Management Information Systems (JMIS)* (33:3), 2016, pp 874-903.
- [J.13] Zhao, K., Wang, Xi\*, Cha, S., Cohn, A.M., Papandonatos, G.D., Amato, M.S., Pearson, J.L., and Graham, A.L., "A Multi-relational Social Network Analysis of an Online Community for Smoking Cessation." *Journal of Medical Internet Research*, (18:8), 2016, e233.
- [J.12] Hu, Y., Song, Y., Zhao, K., and Xu, B. "Integrated Recovery of Aircraft and Passengers after Airline Operation Disruption based on the GRASP Algorithm." *Transportation Research Part E: Logistics and Transportation Review* (87) 2016, pp 97-112.
- [J.11] Zhao, K., Xie, Y., and Tsui, K.L. "System Informatics--from Methodology to Applications." *IEEE Intelligent Systems* (30:6) 2015, pp 12-29.
- [J.10] Zhao, K., Greer, G., Yen, J., Mitra, P., and Portier, K. "Leader Identification in an Online Health Community for Cancer Survivors: A Social Network-based Classification Approach." *Information Systems and e-Business Management* (13:4), 2015, pp 629-645.
- [J.9] Zhao, K., Yen, J., Greer, G., Qiu, B., Mitra, P., and Portier, K. "Finding Influential Users of Online Health Communities: a New Metric based on Sentiment Influence." *Journal of the American Medical Informatics Association (JAMIA)* (21:e2) 2014, pp e212-e218.
- [J.8] Zhao, K., Wang, Xi\*, Yu, M., and Gao, B. "User Recommendation in Reciprocal and Bipartite Social Networks--An Online Dating Case Study." *IEEE Intelligent Systems* (29:2) 2014, pp 27-35.
- [J.7] Portier, K., Greer, G.E., Rokach, L., Ofek, N., Wang, Y., Biyani, P., Yu, M., Banerjee, S., Zhao, K., Mitra, P., and Yen, J. "Understanding Topics and Sentiment in an Online Cancer Survivor Community." *Journal of the National Cancer Institute Monographs* (47) 2013, pp 195-198.
- [J.6] Zhao, K., and Kumar, A. "Who Blogs What: Understanding Publishing Behaviors of Bloggers." *World Wide Web* (16:5-6) 2013, pp 621-644.
- [J.5] Zhao, K., Yen, J., Ngamassi, L.-M., Maitland, C., and Tapia, A. "Simulating Inter-organizational Collaboration Networks: A Multi-relational and Event-based Approach." *Simulation* (88:5) 2012, pp 616-631.
- [J.4] Zhao, K., Kumar, A., and Yen, J. "Achieving High Robustness in Supply Distribution Networks by Rewiring." *IEEE Transactions on Engineering Management* (58:2) 2011, pp 347-362.
- [J.3] Zhao, K., Kumar, A., Harrison, T.P., and Yen, J. "Analyzing the Resilience of Complex Supply Network Topologies against Random and Targeted Disruptions." *IEEE Systems Journal* (5:1) 2011, pp 28-39.
- [J.2] Zhao, K., Yen, J., Ngamassi, L.-M., C., and Tapia, A.H. "Modeling Emerging Coalitions in the Context of Inter-organizational Networks: A Case Study of Humanitarian Coordination." *International Journal of Intelligent Control and Systems* (14:1) 2009, pp 97-103.
- [J.1] Xie, Y., Batty, M., and Zhao, K. "Simulating Emergent Urban Form Using Agent-Based Modeling: Desakota in the Suzhou-Wuxian Region in China." *Annals of the Association of American Geographers* (97:3) 2007, pp 477-495.

#### **REFEREED CONFERENCE AND WORKSHOP PAPERS**

- [C.36] Gao, G., Liu, H., Wang, C., Yang, L., and Zhao, K. "Externality-based Recommendations for Online Live Karaoke Platforms," *The 32nd Workshop on Information Technologies and Systems (WITS)*, Denmark, 2022.
- [C.35] Wang, Xiangyu.\*, Zhao, K., Amato, M.S., Graham, A.L., Stanton, C.A., and Shuter, J. "Jumpstarting Online Interactions to Promote Smoking Cessation: Analyzing the Role of Seed Users in an Online Health Community." *The 31st Annual Workshop on Information Technologies and Systems (WITS)*, Austin, TX, 2021.
- [C.34] Lee, S.\* and Zhao, K. "Hierarchy2vec--Representation Learning in Hierarchical Collaboration Networks for Team Performance Prediction." *INFORMS Data Science Workshop*, Online, 2021 (Nominated for the Best Student Paper Award).
- [C.33] Rios, J.\*, Tian, H., Street, N., Zhang, X. and Zhao, K. "A Hybrid Deep Learning Model for Dynamic Stock Movement Predictions based on Supply Chain Networks." *The 30<sup>th</sup> Annual Workshop on Information Technologies and Systems (WITS)*, Online, 2020.
- [C.32] Gao, G., Liu, H., and Zhao, K. "Audience Come and Go: Learning Dynamic Representations to Recommend Live Streaming Rooms." *INFORMS Data Science Workshop*, Online, 2020 (Runner-up of the Best Paper Award).
- [C.31] Lee, S.\*, Jang, H.\*, Zhao, K., Amato, M.S., and Graham, A.L. "Multi-Relational Link Prediction for an Online Health Community." *INFORMS Data Science Workshop*, Seattle, WA, 2019.
- [C.30] Zuo, Z.\*, and Zhao, K. "Understanding and Predicting Future Research Impact-A Social Capital Perspective." *INFORMS Data Science Workshop*, Seattle, WA, 2019.
- [C.29] Wang, Xiangyu\*, Joshi, A.\*, Zhao, K., and Zhou, X. "Social Support and User Churn Prediction for Online Health Communities--A Trajectory-based Deep Learning Method." *The 28<sup>th</sup> Annual Workshop* on Information Technologies and Systems (WITS), Santa Clara, CA, 2018.
- [C.28] Rios, J.\*, Zhao, K., and Street, N. "Predicting Stock Price Movements via Multi-relational Inter-firm Networks." *INFORMS Data Science Workshop*, Phoenix, AZ, 2018.
- [C.27] Zuo, Z.\*, Zhao, K. "A Graphical Model for Topical Impact Over Time." *The ACM/IEEE Joint Conference on Digital Libraries (JCDL)*, Fort Worth, TX, 2018, pp 405-406.
- [C.26] Wang, Xi\*, Zhao, K., Cha, S., Amato, M.S., Cohn, A.M., Pearson, J.L., Papandonatos, G.D., and Graham, A.L. "Identifying Smoking Status from User-Generated Content in An Online Community for Smoking Cessation--A Machine Learning Approach." 27th Annual Workshop on Information Technologies and Systems (WITS), Seoul, Korea, 2017.
- [C.25] Bigsby, K.G.\*, Ohlmann, J.W., and Zhao, K. "The Turf is Greener on the Other Side: Predicting Decommitments in College Football Recruiting Using Social Network Data." *INFORMS Data Science Workshop*, Houston, TX, 2017.
- [C.24] Lin, Q., Wang Xi\*, and Zhao, K. "Reciprocal Recommendation in Online Dating by Binary Matrix Completion with Data-Dependent Regularization." *INFORMS Data Science Workshop*, Houston, TX, 2017 (Winner of the Best Paper Award).
- [C.23] Wang, Xi\*, Zuo, Z.\*, Zhang, Y., Zhao, K., Chang, Y.-C., Chou, C.-S. "Investigating Regional Prejudice in China Through the Lens of Weibo." *Proceedings of International Conference on Social Informatics (SocInfo'16)*, Bellevue, WA, 2016, pp. 500-513.

- [C.22] Zuo, Z.\*, Wang, Xi\*, Eichmann, D., and Zhao, K. "Research Collaborations in Multidisciplinary Environments a Case Study of iSchools." *Proceedings of the 3<sup>rd</sup> WWW Workshop on Big Scholarly Data (BigScholar'16)*, Montreal, Canada, 2016, pp. 443-448.
- [C.21] Wang, S.\*, Zhao, K., Yang, T., and Zhang, Q. "Concurrent Diffusions of Information and Behaviors in Online Social Networks—A Case Study of the Ice Bucket Challenge." *Proceedings of the 25th Annual Workshop on Information Technologies and Systems (WITS'15)*, Dallas, TX, 2015.
- [C.20] Wang, Xi\*, Zhao, K., Pant, G. and Rodriguez, J.R.\* "The Diffusion of User Roles via Social Networks in Online Health Communities." *Proceedings of the 25th Annual Workshop on Information Technol*ogies and Systems (WITS'15), Dallas, TX, 2015.
- [C.19] Zhao, K., Wang, Xi\*, Graham, A.L., Cha, S., Cohn, A.M., Erar, B., and Papandonatos G.D. "The Structure and Dynamics of a Multi-relational Online Social Network for Smoking Cessation." *Proceedings of the 25th Annual Workshop on Information Technologies and Systems (WITS'15)*, Dallas, TX, 2015.
- [C.18] Wang, Xi\*, Zuo. Z.\*, and Zhao, K. "The Evolution and Diffusion of User Roles in Online Health Communities--A Social Support Perspective." *Proceedings of IEEE International Conference on Healthcare Informatics (ICHI'15)*, Dallas, TX, 2015, pp. 48-56.
- [C.17] Lash, M.\*, Fu, S.\*, Wang, S.\*, and Zhao, K. "Early Prediction of Movie Success--What, Who, and When." Proceedings of the 2015 International Conference on Social Computing, Behavioral-Cultural Modeling, & Prediction (SBP'15), Washington, DC, 2015, pp. 345-349.
- [C.16] Wang, Xi\*, Zhao, K., and Street, N. "Social Support and User Engagement in Online Health Communities." *Proceedings of the International Conference for Smart Health (ICSH'14)*, Beijing, China, 2014, pp. 97-110.
- [C.15] Kumar, A., and Zhao, K. "Making Sense of a Healthcare Forum--Smart Keyword and User Navigation Graphs." *Proceedings of the 34th International Conference on Information Systems (ICIS'2013)*, Milan, Italy, 2013.
- [C.14] Yu, M., Zhao, K., Yen, J., and Kreager, D. "Recommendation in Reciprocal Bi-partite Social Networks--A Case Study of Online Dating." *Proceedings of the 6th International Conference on Social Computing, Behavioral-Cultural Modeling and Prediction (SBP'13)*, Washington, DC, 2013, pp. 231-239.
- [C.13] Zhao, K., Qiu, B., Caragea, C., Wu, D., Mitra, P., Yen, J., Greer, G.E., and Portier, K. "Identifying Leaders in an Online Cancer Survivor Community." *Proceedings of the 21st Annual Workshop on Information Technologies and Systems (WITS'11)*, Shanghai, China, 2011, pp. 115-120.
- [C.12] Qiu, B., Zhao, K., Mitra, P., Wu, D., Caragea, C., Yen, J., Greer, G.E., and Portier, K. "Get Online Support, Feel Better--Sentiment Analysis and Dynamics in an Online Cancer Survivor Community." *Proceedings of the Third IEEE International Conference on Social Computing (SocialCom'11)*, Boston, MA, 2011, pp. 274-281.
- [C.11] Zhao, K., Kumar, A., Spaziani, M., and Yen, J. "Who Blogs What: Understanding Behavior, Impact and Types of Bloggers." *Proceedings of the 20th Annual Workshop on Information Technologies and Systems (WITS'10)*, St. Louis, Missouri, 2010, pp. 176-181.
- [C.10] Zhao, K., Yen, J., Ngamassi, L.-M., Maitland, C., and Tapia, A. "From Communication to Collaboration: Simulating the Emergence of Inter-organizational Collaboration Network." *Proceedings of 2010 IEEE International Conference on Social Computing (SocialCom'10)*, Minneapolis, MN, 2010, pp. 413-418.

- [C.9] Tapia, A.H., Ngamassi, L.-M., Maitland, C., Zhao, K., and Bajpai, K. "Crossing Borders, Organizations, Levels and Technologies: IS Collaboration in Humanitarian Relief." AMCIS 2010 Proceedings, Peru, 2010, Paper 115.
- [C.8] Ngamassi, L.-M., Zhao, K., Maldonado, E., Maitland, C., and Tapia, A. "Exploring Motives for Collaboration within a Humanitarian Inter-organizational Network." *Proceedings of the 5th Annual iConference*, University of Illinois at Urbana-Champaign, 2010, pp. 224-232.
- [C.7] Zhao, K., Ngamassi, L.-M., Yen, J., Maitland, C., and Tapia, A. "Assortativity Patterns in Multi-dimensional Inter-organizational Networks: A Case Study of the Humanitarian Relief Sector." *Proceedings of the 2010 International Conference on Social Computing, Behavioral Modeling & Prediction* (SBP'10), Bethesda, MD, 2010, pp. 265-272.
- [C.6] Zhao, K., Kumar, A., and Yen, J. "Effect of Topology on Robustness of a Supply Network--Metrics and Results." *Proceedings of the 19th Annual Workshop on Information Technologies and Systems* (WITS'09), Phoenix, Arizona, USA, 2009, pp. 97-102.
- [C.5] Zhao, K., Yen, J., Maitland, C., Tapia, A., and Ngamassi Tchouakeu, L.-M. "A Formal Model for Emerging Coalitions under Network Influence in Humanitarian Relief Coordination." *Proceedings of* the Spring Simulation Multi-conference (SpringSim'09), San Diego, CA, 2009, Article No.10.
- [C.4] Zhao, K., Maitland, C., Ngamassi Tchouakeu, L.-M., Orendovici, R., Tapia, A.H., and Yen, J. "Emergence of Collaborative Projects and Coalitions: A Framework for Coordination in Humanitarian Relief." *Proceedings of the World Congress of Social Simulation (WCSS'08)*, George Mason University, Fairfax, VA, 2008.
- [C.3] Saab, D.J., Maldonado, E., Orendovici, R., Tchouakeu, L.M., Gorp, A.v., Zhao, K., Maitland, C., Tapia, A.H. "Building Global Bridges: Coordination Bodies for Improved Information Sharing among Humanitarian Relief Agencies." *Proceedings of the 5th International Information Systems for Crisis Response & Management Conference (ISCRAM'08)*, Washington, DC, 2008, pp. 471-483.
- [C.2] Zhao, K., and Evett, M.P. "CyberLab: An Online Virtual Laboratory Toolkit for Non-Programmers." Proceedings of the 8th IEEE International Conference on Advanced Learning Technologies (ICALT '08), Santander, Spain, 2008, pp. 316-318.
- [C.1] Xie, Y., Batty, M., and Zhao, K. "Simulating an Emergent Urban Form: Desakota in China," Proceedings of the Ninth International Conference on Computers in Urban Planning and Urban Management (CUPUM'05), London, UK, 2005.

### **BOOK CHAPTER**

[B.1] Tchouakeu, L.-M. N., Maldonado, E., Zhao, K., Robinson, H., Maitland, C., and Tapia, A. "Exploring Barriers to Coordination between Humanitarian NGOs: A Comparative Case Study of two NGO's Information Technology Coordination Bodies." *Information Systems and Modern Society: Social Change and Global Development*, IGI Global, 2013, pp 87-112.

# **PAPERS UNDER REVIEW**

- [R.7] Zhai, P., Zhao, K., and Yang, Y. "Multi-touch Attribution-enhanced Click-through Rate Prediction using Dynamic Graph Neural Networks."
- [R.6] Zhang, W., He, S., Zhao, K., Zhang, P., Yang, Y., and Zeng, D. "Disentangling Hyperbolic Embeddings for Serendipity Recommendations."
- [R.5] Li, N., Wang, Xiangyu\*, Lee, S.\*, Liu, Y, and Zhao, K. "Assembling Teams at the Knowledge Frontier: How Research Team Knowledge Continuity Supports Innovation Success in Combating COVID-19."

- [R.4] Qu, X., Wang, Xiangyu\*, Jiang, Z., and Zhao, K. "Social Influence and the Co-diffusion of Information and Behaviors on Online Social Networks."
- [R.3] Gao, G., Liu, H., Wang, C., Yang, L., and Zhao, K. "Proactively Considering Future Externality for Recommendations in Live-Streaming Platforms."
- [R.2] Rios. J.\*, Zhao, K., and Street, N., and Blackhurst, J. "Stock Price Movement Cross-Predictability in Supply Chain Networks."
- [R.1] Lin, Q., Zhao, K., Wang, Xi\*, and Sheng, O. "Turning to the Blind Side: Leveraging Relative Interests for Reciprocal Recommendations."

# CITATION

Google Scholar: total citation 3,358; h-index 28; i10-index 48 (as of Jan 2025).

# GRANTS

• Dime la VerDAD (Verify, Debunk, and Disseminate). *National Institute of Health*, R01 MD018730. Co-I. \$702,357. 2023-28.

• Libraries as Resilience Hubs: Assessing Social Impacts and Learning from Best Practices. Institute of Museum and Library Services (LG-254845-OLS-23). Co-I. \$498,241. 2023-25.

• Understanding Gender Gaps in Academic Science through the Lens of Topic Fit: An Interdisciplinary Investigation Using a Big Data Approach.

National Science Foundation (2218662). Co-PI. \$273,000. 2022-24.

• Public Libraries for Disaster Resilience: Assessing Libraries' Community Impacts in Times of Climate and Socio-Economic Crises.

University of Iowa Jumpstarting Tomorrow Grant. Co-PI. \$150,000. 2021-22.

• Understanding Gender Gaps in Academic Science through the Lens of Topic Fit: An Interdisciplinary Investigation.

*Tippie College of Business Research Excellence Grant.* Co-PI. \$6,000. 2021-22.

• Effects of Supply Chain and Board Membership Networks on Firm Performances *Tippie College of Business Research Excellence Grant.* Co-PI. \$6,000. 2020-21.

• In Whom We Trust: How Entrepreneurs' Communication Moderates the Effect of Their Unmet Promises on Funders Reactions.

Tippie College of Business Research Excellence Grant. Co-PI. \$6,000. 2020.

• Support for the Doctoral Consortium Program at the 2016 IEEE International Conference on Healthcare Informatics.

National Science Foundation, Award 1644419. PI. \$23,000. 2016-17.

 Social Dynamics of Substance Use in Online Social Networks for Smoking Cessation. *National Institute of Health*, R01 CA192345. \$468,382. 2014-16. As a co-PI for this multiple-PI project (Graham and Zhao).

• Old Gold Fellowship. *The University of Iowa*. PI. 2013.

• Network Science Exploration Research Grant. *Penn State University*. PI. \$4,000. 2010.

# **SELECTED TALKS AND PRESENTATIONS**

- [T.36] "Jumpstarting Online Interactions to Promote Smoking Cessation—Analyzing the Role of Seed Users in an Online Health Community." *INFORMS Annual Meeting*, Indianapolis, IN, 2022.
- [T.35] "Predicting Stock Price Movements--Machine Learning Approaches based on Inter-firm Networks." *Robinson College of Business, Georgia State University*, 2022.
- [T.34] "Predicting NFL Team Performance via Hierarchical Team Embeddings." *INFORMS Annual Meeting*, Anaheim, CA, 2021.
- [T.33] "Understanding the Spread of Misinformation on Social Media--the Effects of Topics and a Political Leader's Nudge." *INFORMS Annual Meeting*, Anaheim, CA, 2021.
- [T.32] "From Cyberspace to Physical Space--Mining and Integrating Online and Offline Data for Insights." *Tezign Shanghai Ltd.*, Online, 2021.
- [T.31] "A Dynamic GNN Model for Stock Price Movement Prediction with Supply Chain Networks." *INFORMS Annual Meeting*, Online, 2020.
- [T.30] "The Role of Social Influence in the Co-diffusion of Information and Behaviors in Online Social Networks." *INFORMS Annual Meeting*, Online, 2020.
- [T.29] "Understanding Research Collaborations During the Covid-19 Pandemic." *INFORMS Annual Meeting*, Online, 2020.
- [T.28] "From Cyberspace to Physical Space--Mining and Integrating Online and Offline Data for Insights." *Zhejiang University*, China, 2020.
- [T.27] "The Role of Prospective Social Ties in Job Placements." *China Summer Workshop on Information Management (CSWIM'19)*, Shenzhen, China, 2019.
- [T.26] "Predicting Stock Price Movements via Multi-relational Inter-firm Networks." *China Summer Work-shop on Information Management (CSWIM'19)*, Shenzhen, China, 2019.
- [T.25] "Predicting Stock Price Movements via Inter-firm Networks." *INFORMS Annual Meeting*, Seattle, WA, 2019.
- [T.24] "Predicting User Activities in Online Health Communities with Deep Learning." *INFORMS Annual Meeting*, Seattle, WA, 2019.
- [T.23] "People Analytics: What Factors Lead to Better Placement?--A Case of Faculty Hiring." *INFORMS Annual Meeting*, Phoenix, AZ, 2018.
- [T.22] "Social Support and User Churn Prediction for Online Health Communities--A Trajectory-based Deep Learning Method." *INFORMS Annual Meeting*, Phoenix, AZ, 2018.
- [T.21] "Mining User-generated Content in an Online Smoking Cessation Community to Identify Smoking Status--A Machine Learning Approach." *INFORMS Annual Meeting*, Phoenix, AZ, 2018.
- [T.20] "Online and Off the Web--Analyzing User Behaviors and Health Outcome in Online Health Communities." *The 6<sup>th</sup> International Conference on Smart Health (ICSH'18)*, Wuhan, China, 2018.
- [T.19] "Social Media Data Mining and Network-based Simulations." *Wuhan University Summer School on Business Data Analytics*, China, 2018.
- [T.18] "Online and Off the Web--Mining Online Data for Offline Behaviors." *Tsinghua University*, China, 2018.
- [T.17] "Predicting Decommitments in College Football Recruiting Using Social Network Data." *Winter Conference on Business Analytics*, Snowbird, Utah, 2017.

- [T.16] "A Network Analysis Approach to Predict Supply Chain Performance." *Winter Conference on Business Analytics*, Snowbird, Utah, 2017.
- [T.15] "Concurrent Diffusion of Information and Behaviors in Online Social Networks." 2016 Winter Conference on Business Intelligence, Snowbird, Utah, 2016.
- [T.14] "Social Dynamics of Substance Use in Online Social Networks for Smoking Cessation." *VA Innovations in Healthcare Informatics Cyberseminar*, U.S. Department of Veteran Affairs, 2015.
- [T.13] "The Evolution of User Roles in Online Health Communities--A Social Support Perspective." *The 19th Pacific-Asia Conference on Information Systems (PACIS'15)*, Singapore, 2015.
- [T.12] "Who is Going to Change Next? A Study of User Roles Transition in Online Health Communities." *The 9th China Summer Workshop on Information Management (CSWIM'15)*, Hefei, China, 2015.
- [T.11] "Predicting User Engagement in Online Health Communities Based on Social Support Analysis." 2015 Winter Conference on Business Intelligence, Snowbird, Utah, 2015.
- [T.10] "Users' Roles and Involvement in Online Health Communities--a Social Support Perspective." *The 16th International Conference on Electronic Commerce (ICEC'14),* Philadelphia, 2014.
- [T.9] "Users' Roles and Involvement in Online Health Communities--a Social Support Perspective." *The* 8th China Summer Workshop on Information Management (CSWIM'14), Chengdu, China, 2014.
- [T.8] "Understanding Social Support and User Behaviors in Online Health Communities." 2014 Winter Conference on Business Intelligence, Snowbird, Utah, 2014.
- [T.7] "Sentiment Influence and Influential Users in Online Health Communities." *3M Corporate Research*, St. Paul, MN. 2013.
- [T.6] "Role Identification--Influential users and community leadership." *International Conference on Social Intelligence and Technology*, University Park, PA, 2013.
- [T.5] "Recommendation in Reciprocal Bipartite Social Networks for Online Dating." 2013 Winter Conference on Business Intelligence, Snowbird, Utah, 2013.
- [T.4] "Robustness of Heterogeneous Supply Networks--New Metrics and Model." *2010 American Physical Society March Meeting*, Portland, OR, 2010.
- [T.3] "Exploring Assortative Patterns in Multi-dimensional Inter-organizational Networks: A Case Study of the Humanitarian Relief Sector." 2009 North American Association for Computational Social & Organization Sciences Annual Conference, Tempe, Arizona, USA, 2009.
- [T.2] "Robustness of Heterogeneous Supply Networks against Random and Targeted Disruptions." *First Annual Complexity Conference*, Ann Arbor, MI, USA, 2009.
- [T.1] "EnDURE: Environmental Disaster Urban Recovery and Evaluation Model." Annual Conference of the North American Association for Computational Social & Organizational Sciences, Notre Dame, IN, 2006.

# SELECTED MEDIA COVERAGE

- "Want to Earn a College Football Scholarship? Better Start Tweeting." Newswise, June 24, 2019.
- "University of Iowa Researcher Can Predict Where Football Recruits Will Go." USA Today, Jan. 27, 2018.

• "University of Iowa Researchers Develop New Model to Predict Which Universities Student Athletes Will Commit to." *INFORMS News*, Dec. 12, 2017.

• "Commitment Is Key for Online Quit-Smoking Groups." U.S. News and World Report, Nov 17, 2017.

• "It's Hard to Predict a Movie's Profitability, but You Learn Some Lessons Along the Way." *Washington Post*, May 16, 2016.

- "Predicting Future Box Office Success." Inside Higher Ed, March 25, 2016.
- "The AI that Could Change Hollywood." BBC, Feb 24, 2016.

• "Algoritmo "desvenda" o que leva um filme a fazer sucesso e dar lucro", *Gazeta do Povo* (Portugal), June 26, 2015.

• "Data-Mining zeigt Erfolgsfaktoren fur Kinofilme", heise online (Germany), June 24, 2015.

• "Box Office Predictions from Robots Find A-List Actors Hurt Film Profits." *International Business Times*, June 24, 2015.

- "Analise de big data desvenda o segredo dos filmes de sucesso", Estadao (Brazil), June 22, 2015.
- "Updating the Dating Game" Cosmopolitan, March, 2014.
- "Is Big Data Dating the Key to Long-lasting Romance?" BBC News, March 24, 2014.
- "New Twists for Love in Age of Big Data." Agence France-Presse, Feb 12, 2014.
- "Machine Learning + Love." New York Public Radio, Feb 12, 2014.
- "Love Connection." ACM TechNews, Dec 9, 2013.
- "An Algorithm to Help You Find Best Dating Partner." The Times of India, Dec 7, 2013.
- "Why the Future of Online Dating Relies on Ignoring You." Forbes, Dec 7, 2013.

• "A New Online Dating Algorithm Will Match You with Someone You Might Actually Have A Chance With." *Business Insider*. Dec 11, 2013.

• "Good Samaritan Index Identifies Web Users Who Help Other Most." *MIT Technology Review*. Nov 28, 2012.

# TEACHING

Average student evaluation score **5.49** out of 6.

- Database Management (Undergraduate).
- Analyzing Data for Business Intelligence (Undergraduate).
- Databases and Web Services (Undergraduate).
- Database Systems (MBA).
- Big Data Management and Analytics (MSBA).
- Data Management and Visual Analytics (MBA, MAc, MSBA).
- Social Network Analytics (*PhD*).

# SERVICE

#### External Leadership

- Emerging Topics Co-chair, INFORMS Annual Meeting, 2022.
- Conference Co-chair, INFORMS Workshop on Data Science, 2020.
- Program Co-chair, AMCIS SIGBPS Workshop on Blockchain and Financial Analytics, 2020.
- Program Co-chair, INFORMS Workshop on Data Science, 2019.
- Publicity Chair, International Conference for Smart Health, 2017 and 2018.
- Publicity Chair, INFORMS Workshop on Data Science, 2017 and 2018.
- Chair, INFORMS Artificial Intelligence Section, 2014-2016.
- Chair of the Artificial Intelligence Cluster, INFORMS Annual Meeting 2013, 2017, 2018.
- Doctoral Consortium Chair, IEEE International Conference on Healthcare Informatics, 2016.

#### Editorship

- Associate Editor, Information and Management, 2022-Present.
- Guest Associate Editor, Information Systems Research, 2021-Present.
- Review Editor, Journal of the Association for Information Science and Technology, 2018-Present.
- Associate Editor, Decision Support Systems, 2021-2023.
- Associate Editor, Electronic Commerce Research and Applications, 2020-2025.
- Associate Editor, Information Technology and Management, 2020-Present.
- Special Issue Editor for

Information Processing and Management (2022) Electronic Commerce Research and Applications (2020) ACM Trans. on Management Information Systems (2020) IEEE Intelligent Systems (2015)

• Associate Editor, International Conference on Information Systems (ICIS), 2016, 2018, and 2021.

#### **Grant Review Panels**

• National Science Foundation, 2015 and 2020.

#### **Paper Review**

- Reviewer for more than 30 journals, including
  - ACM Transactions (various)
  - **Decision Sciences**
  - IEEE Transactions (various)
  - Information Processing and Management
  - Information Systems Research
  - **INFORMS** Journal on Computing
  - Journal of the Association for Information Systems
  - Journal of Management Information Systems
  - Journal of Operations Management
  - MIS Quarterly
  - Management Science
  - Production and Operations Management
  - Scientometrics
- Program Committee Member for
  - Workshop on Information Technologies and Systems
  - **INFORMS** Data Science Workshop
  - Conference on Information Systems and Technology
  - China Summer Workshop on Information Management
  - International Conference on Social Computing Behavioral-Cultural Modeling, & Prediction,
  - International Conference on Electronic Commerce
  - IEEE International Conference on Healthcare Informatics
  - IEEE International Conference on Social Computing
  - International Conference for Smart Health
  - ACM KDD Big Scholar Workshop
- Ad-hoc Conference Reviewer for
  - ACM Conference on Knowledge Discovery and Data Mining (KDD) International Conference on Information Systems for Crisis Response & Management Hawaii International Conference on System Sciences
  - Pacific Asia Conference on Information Systems

#### University, College, and Department Service

- Faculty Director, Full-time MS in Business Analytics, Dept. of Business Analytics. 2020-2023.
- Chair, Faculty Recruiting Committee, Dept. of Business Analytics. 2022-2023.

- Member, Student Recruitment and Admission Committee, IGPI. 2021-Present.
- Member, MBA Committee, Tippie College of Business. 2020-2022.
- Member, Research Committee, Dept. of Management Sciences. 2018-2019.
- Member, Information Science Track Executive Committee, IGPI. 2017-2020.
- Member, Undergraduate Program Committee, Dept. of Management Sciences. 2017-2019.
- Member, Research Steering Committee, Tippie College of Business. 2015-2017, 2018-2019.
- Member, Research Scientist Recruiting Committee, College of Nursing. 2014-2015.
- Member, Graduate Program Committee, Dept. of Management Sciences. 2012-2015.
- Member, Faculty Recruitment Committee, Dept. of Management Sciences. 2013, 2015, 2017.
- Coordinator, Tippie Brown-bag Series on Computational Data Science. 2018.
- Coordinator, Dept. of Management Sciences Seminars. 2012-2013.

#### Professional Membership

• INFORMS, Association of Information Systems, IEEE, ACM.

### ADVISING

PhD Student Advising (programs and years of degree conferral if available)

- *Rohan Shrestha* (Informatics)
- Seyong Ha (Business Analytics)
- Anindita Bandyopadhyay (Business Analytics)
- Xiangyu Wang (Informatics, 2022)
  - Dissertation: "From Online Engagement to Offline Health Outcomes--Analyzing User Behaviors in Online Health Communities."

Placement: Tenure-track faculty member, University of New South Wales Business School, Sydney.

• Sulyun Lee (Informatics, 2022)

Dissertation: "Understanding and Predicting Team Performance--A Collaboration Perspective." Placement: Senior Data Scientist, Castell Health, Salt Lake City, UT.

- John Rios Rodriguez (Business Analytics, 2021) Dissertation: "Predicting Stock Price Movements in Supply Chain Networks." Placement: Lecturer, University of Georgia, Athens, GA.
- Zhiya Zuo (Informatics, 2019)

Dissertation: "Analyzing Collaboration using Large-Scale Scholarly Data." Placement: Assistant Professor of Information Systems, College of Business, City Univ. of Hong Kong.

- Kristina Bigsby (Informatics, 2018). Co-advised with Prof. Jeff Ohlmann Dissertation: "From Hashtags to Heismans--Social Media and Networks in College Football Recruiting." Placement: Lecturer, Department of Business Analytics, University of Iowa.
- Xi Wang (Informatics, 2017)

Dissertation: "Engagement of Users in Online Health Communities--A Social Support Perspective." Placement: Assistant Professor, School of Information, Central Univ. of Finance & Economics, Beijing. Promoted to Associate Professor in 2021, and to Full Professor in 2025.

PhD Committee Members (programs, years of degree conferral and placement if available)

- Junho Yoon (Business Analytics, 2024, University at Buffalo)
- Bang An (Business Analytics, 2024, Georgia Institute of Technology)
- Chengyue Huang (Business Analytics, 2024, Bloomberg)
- Sadjad Anzabi Zadeh (Business Analytics, 2023, Duke Energy Company)
- Shenghao Wang (Business Analytics, 2023)
- Min Zhang (Informatics, 2023, Communication University of China)

- Haoyi Xiong (Geography, 2022)
- Maryam Rahmani Moghaddam (Business Analytics, 2022, Arizona State University)
- Jafar Namdar (Business Analytics, 2022, MIT)
- Morgan Swanson (Epidemiology, 2022)
- Sadia Farzana (Economics, 2022, Louisiana State University)
- Zhong Zheng (Data Science from City University of Hong Kong, 2021)
- Ziqian Song (Computer Science from Virginia Tech, 2020, University of Scranton)
- Michael Redmond (Business Analytics, 2020. University of Michigan)
- Huyen T. Le (Computer Science, 2019. FDA)
- Amin Khezerlou (Management Sciences, 2019. Northern Illinois University)
- Yuanyang Liu (Management Sciences, 2019. University of Tennessee)
- Wenjun Wang (Management Sciences, 2016. University of Arkansas Little Rock)
- Emily White (Geography, 2016)
- Yang Zhang (Political Science, 2016. Southwest Jiaotong University)
- Senay Yasar Saglam (Management Sciences, 2015)
- Chao Yang (Computer Science, 2015. Amazon.com, Inc.)
- Charisse Madlock-Brown (Informatics, 2014. University of Tennessee)
- Mike Rechenthin (Management Sciences, 2014. tastytrade, Inc.)

#### MS Student Advising (programs, years of degree conferral and placement)

- Sherzod Bobojonov (MS in Business Analytics, 2024)
- Arun Ganapathy (MS in Business Analytics, 2024)
- Mingyue Sun (MS in Business Analytics, 2022, University of Iowa Hospitals & Clinics)
- Amanda Aird (MS in Business Analytics, 2021, University of Colorado Boulder)
- Apoorva Joshi (MS in Electrical and Computer Engineering, 2018. Elastic)
- Shiyao Wang (MS in Computer Science, 2016. Spotify)

Undergraduate Student Advising (programs, years of degree conferral and placement)

- Shangguan Wang (BBA, 2018, Accenture)
- Shuai Alice Zheng (BBA, 2017, MathWorks)
- Sunyang Fu (BBA, 2014, Mayo Clinic)

#### **Other Mentoring**

• Faculty Mentor, Doctoral Consortium of Americas Conference on Information Systems, August 2020, online.

# **CAMPUS AND COMMUNITY ACTIVITIES**

President – Graduate Student Association of IST, Penn State University.
Board member – Chinese Friendship Association, Penn State University.
2008-2009