

# Wenli Zhang, PhD

Department of Information Systems and Business Analytics  
Debbie and Jerry Ivy College of Business, Iowa State University  
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## APPOINTMENT

- 2018 – present Assistant Professor, Department of Information Systems and Business Analytics, Debbie and Jerry Ivy College of Business, Iowa State University.  
(Maternity leave: 2019, 2020)
- 2013 – 2018 Research Associate, INSITE: Center for Business Intelligence and Analytics, University of Arizona.

## EDUCATION

- 2018 Ph.D. (Management Information Systems, Minor in Statistics), Department of Management Information Systems, Eller College of Management, University of Arizona, USA.  
Dissertation: Natural Language Processing and Machine Learning for Chronic Disease Management and Prevention: Focus on Asthma.  
Dissertation committee: Drs. Sudha Ram, Susan Brown, Mingfeng Lin, and Junming Yin.
- 2013 M.S. (Management Science), University of Electronic Science and Technology of China, China.
- 2007 B.S. (Computer Science), Sichuan Normal University, China.

## PEER-REVIEWED JOURNAL PUBLICATIONS

- **Zhang, W.**<sup>1</sup>, Xie, J.<sup>1</sup>, Zhang, Z., Liu, X., 2024. Depression Detection Using Digital Traces on Social Media: A Knowledge-aware Deep Learning Approach, Journal of Management Information Systems, forthcoming.
- **Zhang, W.**<sup>#</sup>, Ram, S., 2020. A Comprehensive Analysis of Triggers and Risk Factors for Asthma: Based on Machine Learning and Large Heterogeneous Data Sources, MIS Quarterly, 44(1).
- Ram, S., **Zhang, W.**, Williams, M., Pengetnze, Y., 2015. Predicting Asthma-Related Emergency Department Visits Using Big Data. IEEE Journal of Biomedical and Health Informatics 19, 1216–1223. **Awarded a Meritorious Mention by the Association for Information Systems (AIS) – SIG Health.**

Note: <sup>1</sup>equally contributed first authors. <sup>#</sup>Corresponding author.

## PEER-REVIEWED CONFERENCE PROCEEDINGS

- Shuang Geng, Bang Tao, Gemin Liang, Chao Fu, **Wenli Zhang**, and Ben Niu. 2023. Temporal Knowledge Graph Attention Network for Online Doctor Recommendation. In Proceedings of the 2023 8th International Conference on Intelligent Information Processing (ICIIP '23). Association

for Computing Machinery, New York, NY, USA, 277–282.

<https://doi.org/10.1145/3635175.3635224>

- Geng, S., **Zhang, W.**, Xie, J., Liang, G., Niu, B., 2023. Patient Dropout Prediction in Virtual Health: A Multimodal Dynamic Knowledge Graph and Text Mining Approach, 2023 INFORMS Workshop on Data Science, Arizona, USA.
- Wang, S., Jiang, Y., He, C., Li, Q., **Zhang, W.**, 2023. A new transfer-learning-based method for medical laboratory test outcome prediction to address the lack of data issue, in: Proceedings of the IISE Annual Conference & Expo (IISE 2023), New Orleans, Louisiana, USA.
- Jiang, Y., Wang, S., Li, Q., **Zhang, W.**, 2023. ICU Outcome Predictions Using Real-Time Signals with Wavelet-Transform-based Convolutional Neural Network, in: Proceedings of the 54<sup>th</sup> Hawaii International Conference on System Sciences (HICSS 2023), Hawaii, USA.
- **Zhang, W.**, Xie, J., Liu, X., Zhang, Z., 2022. Depression Detection in Social Media Using Time-and-knowledge-aware LSTM and Depression Diagnosis-related Entity Extraction, 2022 INFORMS Workshop on Data Science, Indiana, USA.
- Yuan, L., **Zhang, W.**, Scheibe, K., 2022. The Devil Is in The Details: Measuring Sensory Processing Sensitivity Using Natural Language Processing, in: Proceedings of the 53<sup>rd</sup> Hawaii International Conference on System Sciences (HICSS 2022), Hawaii, USA.
- Wang, S., Li, Q., **Zhang, W.**, 2021. MD-Manifold: A Medical Distance Based Manifold Learning Approach for Heart Failure Readmission Prediction, in: Proceedings of the 52<sup>nd</sup> Hawaii International Conference on System Sciences (HICSS 2021), Hawaii, USA.
- Rajabalizadeh, A., Wang S., Javadi, M., Safaei, N., Talafidaryani, M., Li, Q., **Zhang, W.**, Moqri, M., 2020. In-depth Evaluation of APACHE Scoring System Using eICU Database, in: Proceedings of the International Conference on Information Systems 2020 (ICIS 2020), Hyderabad, India.
- **Zhang, W.**, 2017. Natural Language Processing and Machine Learning for Chronic Disease Management and Prevention: Focus on Asthma, in: Proceedings of the 27<sup>th</sup> Workshop on Information Technologies and Systems (WITS), Seoul, South Korea. **Best Dissertation Proposal Award.**
- **Zhang, W.**, Ram, S., 2017. Are Electronic Cigarettes a Safer Substitute for Cigarettes for Asthma Patients, in: Proceedings of the 27<sup>th</sup> Workshop on Information Technologies and Systems (WITS), Seoul, South Korea.
- **Zhang, W.**, Ram, S., 2017. Domain Adaptation for Signal Extraction from Large Social Media Datasets, in: Proceedings of the INFORMS Conference on Information Systems and Technology (CIST 2017), Houston, Texas, USA.
- **Zhang, W.**, Ram, S., Burkart, M., Pengetnze, Y., 2016. Extracting Signals from Social Media for Chronic Disease Surveillance, in: Proceedings of the 6<sup>th</sup> International Conference on Digital Health Conference, DigitalHealth'16. ACM, Montreal, Quebec, Canada, pp. 79–83.
- **Zhang, W.**, Ram, S., 2015. A Comprehensive Methodology for Extracting Signal from Social Media Text Using Natural Language Processing and Machine Learning, in: Proceedings of the 25<sup>th</sup> Workshop on Information Technologies and Systems (WITS), Dallas, Texas, USA.
- Peng, Y., **Zhang, W.**, Kou, G., 2011. A Fuzzy MCDM Based Approach for Hybrid Recommender Systems. in: Proceedings of the 6<sup>th</sup> Chinese Academy of Management Annual Meeting (CAMAM), Chengdu, China. **Best Paper Award.**
- Peng, Y., **Zhang, W.**, Kou, G., 2011. A Hybrid Movie Recommender System. in: Proceedings of the 22<sup>nd</sup> Workshop on Information Systems Economics (WISE), Shanghai, China.

## INVITED TALKS AND CONFERENCE PRESENTATIONS

- Achieving Equitable Access to Medical Laboratory Tests through Optimal Sparse Decision Tree2024 IISE Annual Conference & Expo, Montreal, Canada.
- Attention-Deficit/Hyperactivity Disorder Prognosis using Multi-Modal and Multi-Channel Polysomnography Data, 2024 IISE Annual Conference & Expo, Montreal, Canada.
- Patient Dropout Prediction in Virtual Health: A Multimodal Dynamic Knowledge Graph and Text Mining Approach, 2023 INFORMS Workshop on Data Science, Arizona, USA.
- ICU Outcome Predictions Using Real-Time Signals with Wavelet-Transform-based Convolutional Neural Network, in: Proceedings of the 54<sup>th</sup> Hawaii International Conference on System Sciences (HICSS 2023), Hawaii, USA, 2023
- Depression Detection in Social Media Using Time-and-knowledge-aware LSTM and Depression Diagnosis-related Entity Extraction, FoRMLA - Front Range of Machine Learning Alliance Seminar Series, University of Colorado, 2022
- ICU Mortality Prediction: Can We Do Better? A New Model Based on Machine Learning and Stochastic Signal Analysis Techniques, Iowa State University, 2021.
- Domain Adaptation for Signal Extraction from Large Social Media Datasets, Iowa State University, 2018.
- A Comprehensive Analysis of Risk Factors for Asthma: Based on Machine Learning and Large Heterogeneous Data Sources, MISQ workshop for Special Issue on The Role of Information Systems and Analytics in Chronic Disease Prevention & Management, Jindal School of Management, UT Dallas, 2018.
- A Machine Learning Approach for Understanding Population-Level Health Effects of E-Cigarettes, Conference on Health IT and Analytics (CHITA), 2017.
- Are Electronic Nicotine Delivery Systems (ENDS) a Safe Substitute for Cigarettes Among Asthma Patients: A Social Media Based Analysis, INFORMS Annual Meeting, Houston, Texas, USA, 2017.
- Domain Adaptation for Signal Extraction from Large Social Media Datasets, the INFORMS Conference on Information Systems and Technology (CIST 2017), Houston, Texas, USA, 2017.
- Are Electronic Cigarettes a Safer Substitute for Cigarettes for Asthma Patients, Workshop on Information Technologies and Systems (WITS), Seoul, South Korea, 2017.
- A Comprehensive Analysis of Risk Factors for Asthma: Based on Machine Learning and Large Heterogeneous Data Sources, Iowa State University, 2017.
- Extracting Signals from Social Media for Chronic Disease Surveillance, International Conference on Digital Health Conference (DigitalHealth'16), Montreal, Quebec, Canada, 2016.
- Key Conversation Trends and Patterns About Electronic Cigarettes on Social Media, INFORMS Annual Meeting, Nashville, Tennessee, USA, 2016.
- Extracting Signals from Social Media Text with Natural Language Processing, Machine Learning and Domain Adaptation, INFORMS Annual Meeting, Nashville, Tennessee, USA, 2016.
- Asthma Surveillance Using Social Media Data, Workshop on Health IT and Economics (WHITE), Washington DC, USA, 2015.
- A Comprehensive Methodology for Extracting Signal from Social Media Text Using Natural Language Processing and Machine Learning, Workshop on Information Technologies and Systems (WITS), Dallas, Texas, USA, 2015.
- A Hybrid Movie Recommender System, Workshop on Information Systems Economics (WISE), Shanghai, China, 2011.

- Movies Recommenders Systems: Fuzzy Multiple Criteria Decision Making Approach, Overseas Chinese Scholars Association in Management Science and Engineering (OCSAMSE), Tianjin, China, 2011.
- A Fuzzy MCDM Based Approach for Hybrid Recommender Systems. Chinese Academy of Management Annual Meeting (CAMAM), Chengdu, China, 2011.

## FUNDING AND GRANTS

- Research Mini Grant, Ivy College of Business, Iowa State University, \$750, Spring 2024.
- Research Mini Grant, Ivy College of Business, Iowa State University, \$750, Fall 2023.
- Research Bootstrap Grant, Ivy College of Business, Iowa State University, \$6,000, Spring 2023.
- Research Mini Grant, Ivy College of Business, Iowa State University, \$750, Spring 2023.
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- Research Mini Grant, Ivy College of Business, Iowa State University, \$750, Spring 2021.
- Research Bootstrap Grant, Ivy College of Business, Iowa State University, \$6,000, Spring 2021.
- Funding support for the 2021 National Center for Faculty Development & Diversity (NCFDD) Summer Faculty Success Program, Spring 2021.
  - ISU Provost Office, \$2,500
  - ISU ISBA Department, \$1,450
- Computer Advisory Committee Funding, Ivy College of Business, Iowa State University, \$477, 2021-2022.
- Research Mini Grant, Ivy College of Business, Iowa State University, \$750, Fall 2020.
- Exploratory Research Grant Program, College of Engineering, Iowa State University, \$7,800, co-PI, Summer 2019.

## HONORS AND AWARDS

- Tenure/Tenure Eligible Early Achievement in Teaching, Information Systems and Business Analytics (Department level: won), Ivy College of Business (College level: nominated), ISU, 2022, 2023
- MISQ Scholarly Development Academy, 2022
- Best Dissertation Proposal Award, Workshop on Information Technologies and Systems (WITS), 2017.
- Doctoral Consortium Fellow, American Conference on Information Systems (AMCIS). 2017.
- Doctoral Consortium Fellow, Conference on Health IT and Analytics (CHITA), 2017.
- Meritorious Mention, Association for Information Systems (AIS) – SIG Health, 2016.
- National Scholarship, Ministry of Education of the People's Republic of China, 2012.
- Best Paper Award, the 6<sup>th</sup> Chinese Academy of Management Annual Meeting (CAMAM), 2011.

## TEACHING

- MIS 446 (undergraduate), Advanced Business Analytics, Iowa State University (Fall 2023), 4.57/5.00
- MIS 536 (graduate), Business Analytics Foundation, Iowa State University (Fall 2023), 3.5/5.00

- MIS 520X (graduate), Healthcare Analytics, Iowa State University (Spring 2023), 4.75/5.00
- MIS 446 (undergraduate), Advanced Business Analytics, Iowa State University (Spring 2023), Section A: 4.00/5.00, Section B: 4.00/5.00
- MIS 446 (undergraduate), Advanced Business Analytics, Iowa State University (Fall 2022), 3.43/5.00
- MIS 446 (undergraduate), Advanced Business Analytics, Iowa State University (Spring 2022), Section A: 4.13/5.00, Section B: 4.50/5.00
- MIS 446 (undergraduate), Advanced Business Analytics, Iowa State University (Fall 2021), 4.50/5.00
- MIS 536 (graduate), Business Analytics Foundation, Iowa State University (Fall 2021), 4.88/5.00
- MIS 446 (undergraduate), Advanced Business Analytics, Iowa State University (Spring 2021), 4.27/5.00
- MIS 536 (graduate), Business Analytics Foundation, Iowa State University (Spring 2021), 4.23/5.00
- MIS 446 (undergraduate), Advanced Business Analytics, Iowa State University (Spring 2020), Co-teaching, 4.50/5.00
- MIS 546 (graduate), Advanced Business Analytics, Iowa State University (Spring 2020), Co-teaching, 4.00/5.00
- MIS 446 (undergraduate), Advanced Business Analytics, Iowa State University (Spring 2019), 4.24/5.00
- MIS 536 (graduate), Business Analytics Foundation, Iowa State University (Spring 2019), 4.27/5.00
- MIS 446 (undergraduate), Advanced Business Analytics, Iowa State University (Fall 2018), 4.67/5.00
- MIS 304 (undergraduate), Using and Managing Information System, University of Arizona (Summer 2016), 4.5/5.00

## SERVICE

- Editorial Board, Journal of Business Analytics, 2021 -
- Session Chair, Demo/Prototype Session, The Workshop on Information Technologies and Systems (WITS), 2024
- Associate Editor, Pacific Asia Conference on Information Systems (PACIS), 2022, 2024
- Session Chair, The International Conference on Information Systems (ICIS), Demo/Prototype Session, 2024
- Associate Editor, The International Conference on Information Systems (ICIS), AI in Business and Society Track, 2022
- Associate Editor, The International Conference on Information Systems (ICIS), IS in Healthcare Track, 2019, 2020, 2021, 2023, 2024
- Program committee, AAAI: International Workshop on Health Intelligence, 2020, 2021
- Ivy speaker (eminent scholar) Committee, 2019-
- ISBA Strategic Planning Committee, 2019-2020
- Committee, Information Systems and Business Analytics Department Chair Search Committee
- Committee, Business Learning Teams, Iowa State University, 2018-2019
- Reviewer for Journals
  - Management Science
  - Management Information Systems Quarterly (MISQ)

- Information Systems Research (ISR)
- Journal of Management Information Systems (JMIS)
- INFORMS Journal on Computing (IJOC)
- European Journal of Information Systems (EJIS)
- Journal of the Association for Information Systems (JAIS)
- Transactions on Management Information Systems (TMIS)
- Information & Management
- IEEE Transactions on Neural Networks and Learning Systems
- International Journal of Information Technology & Decision Making
- Journal on Data Semantics
- Reviewer for Conferences
  - International Conference on Information Systems (ICIS)
  - Workshop on Information Technology and Systems (WITS)
  - Workshop on Information Systems Economics (WISE)
- Volunteer for Conferences
  - International Conference on Information Systems (ICIS)
  - IEEE International Conference on Software Engineering and Data Mining (SEDM)
  - IEEE International Conference on Information and Interaction Sciences (ICIS)
  - Grace Hopper Celebration of Women in Computing

## PROFESSOR ORGANIZATION MEMBERSHIPS

- INFORMS (The Institute for Operations Research and the Management Sciences)
- AIS (Association for Information Systems)
- ACM (Association for Computing Machinery)