

Wenli Zhang, PhD

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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
Tenure clock extensions due to maternity leave: 2019, 2020; Tenure clock extension due to COVID-19: 2021
- 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

Information System Journal Publications

- ICU Outcome Predictions Using Real-Time Signals with Wavelet-Transform-based Deep Learning Method
Yiqun Jiang, Shaodong Wang, Qing Li, **Wenli Zhang**[#], 2025
ACM TMIS - ACM Transactions on Management Information Systems
- Depression Detection Using Digital Traces on Social Media: A Knowledge-aware Deep Learning Approach
Wenli Zhang^{#1}, Jiaheng Xie¹, Zhu (Drew) Zhang, Xiang Liu
JMIS - Journal of Management Information Systems, 2024

- A Comprehensive Analysis of Triggers and Risk Factors for Asthma: Based on Machine Learning and Large Heterogeneous Data Sources
Wenli Zhang[#], Sudha Ram
MISQ - Management Information Systems Quarterly, 2020

Healthcare Journal Publications

- Urgency Prediction for Medical Laboratory Tests Through Optimal Sparse Decision Tree: A Case Study with Echocardiograms
Yiqun Jiang, Qing Li, Yu-Li Huang, **Wenli Zhang[#]**
JMIR AI - Journal of Medical Internet Research Artificial Intelligence, 2024
- Timely ICU Outcome Prediction Utilizing Stochastic Signal Analysis and Machine Learning Techniques with Readily Available Vital Sign Data
Shaodong Wang, Yiqun Jiang, Qing Li, **Wenli Zhang[#]**
IEEE JBHI - IEEE Journal of Biomedical and Health Informatics, 2024
- Predicting Asthma-Related Emergency Department Visits Using Big Data
Sudha Ram, **Wenli Zhang**, Max Williams, Yolande Pengetnze
IEEE JBHI - IEEE Journal of Biomedical and Health Informatics, 2015
Awarded a Meritorious Mention by the Association for Information Systems (AIS) – SIG Health.

Note: [#]equally contributed first authors. ^{*}Corresponding author

PEER-REVIEWED CONFERENCE PROCEEDINGS

- Few-Shot Learning for Chronic Disease Management: Leveraging Large Language Models and Multi-Prompt Engineering with Medical Knowledge Injection
Haoxin Liu, **Wenli Zhang**, Jiaheng Xie, Raymond (Buomsoo) Kim, Zhu (Drew) Zhang, Yidong Chai, Sudha Ram
HICSS - Hawaii International Conference on System Sciences, 2025
- Predicting Consultation Success in Online Health Platforms Using Dynamic Knowledge Graphs and Multimodal Data Fusion
Wenli Zhang, Shuang Geng, Jiaheng Xie, Gemin Liang, Ben Niu, Sudha Ram
ICIS - International Conference on Information Systems, 2024
- Temporal Knowledge Graph Attention Network for Online Doctor Recommendation
Shuang Geng, Bang Tao, Gemin Liang, Chao Fu, **Wenli Zhang**, and Ben Niu
ICIIP - Association for Computing Machinery International Conference on Intelligent Information Processing, 2023
- Patient Dropout Prediction in Virtual Health: A Multimodal Dynamic Knowledge Graph and Text Mining Approach
Shuang Geng, **Wenli Zhang**, Jiaheng Xie, Gemin Liang, Ben Niu
INFORMS Workshop on Data Science, 2023
- A new transfer-learning-based method for medical laboratory test outcome prediction to address the lack of data issue

Shaodong Wang, Yiqun Jiang, Chao He, Qing Li, **Wenli Zhang**
IISE - Institute of Industrial and Systems Engineers Annual Conference & Expo, 2023

- ICU Outcome Predictions Using Real-Time Signals with Wavelet-Transform-based Convolutional Neural Network
Yiqun Jiang, Shaodong Wang, Qing Li, **Wenli Zhang**
HICSS - Hawaii International Conference on System Sciences, 2023
- Depression Detection in Social Media Using Time-and-knowledge-aware LSTM and Depression Diagnosis-related Entity Extraction
Wenli Zhang, Jiaheng Xie, Xiang Liu, Zhu (Drew) Zhang
INFORMS Workshop on Data Science, 2022
- The Devil Is in The Details: Measuring Sensory Processing Sensitivity Using Natural Language Processing
Lingyao Yuan, **Wenli Zhang**, Kevin Scheibe
HICSS - Hawaii International Conference on System Sciences, 2022
- MD-Manifold: A Medical Distance Based Manifold Learning Approach for Heart Failure Readmission Prediction
Shaodong Wang, Qing Li, **Wenli Zhang**
HICSS - Hawaii International Conference on System Sciences, 2021
- In-depth Evaluation of APACHE Scoring System Using eICU Database
Atefeh Rajabalizadeh, Shaodong Wang, Mahdi Javadi, Nima Safaei, Mojtaba Talafidaryani, Qing Li, **Wenli Zhang**, Mahdi Moqri
ICIS - International Conference on Information Systems, 2020
- Natural Language Processing and Machine Learning for Chronic Disease Management and Prevention: Focus on Asthma
Wenli Zhang
WITS - Workshop on Information Technologies and Systems, 2017
Best Dissertation Proposal Award
- Are Electronic Cigarettes a Safer Substitute for Cigarettes for Asthma Patients
Wenli Zhang, Sudha Ram
WITS - Workshop on Information Technologies and Systems, 2017
- Domain Adaptation for Signal Extraction from Large Social Media Datasets
Wenli Zhang, Sudha Ram
CIST - INFORMS Conference on Information Systems and Technology, 2017
- Extracting Signals from Social Media for Chronic Disease Surveillance
Wenli Zhang, Sudha Ram, Mark Burkart, Yolande Pengetnze
DigitalHealth - ACM International Conference on Digital Health Conference, 2016
- A Comprehensive Methodology for Extracting Signal from Social Media Text Using Natural Language Processing and Machine Learning
Wenli Zhang, Sudha Ram
WITS - Workshop on Information Technologies and Systems, 2015

- A Fuzzy MCDM Based Approach for Hybrid Recommender Systems
Yi Peng, **Wenli Zhang**, Gang Kou
CAMAM - Chinese Academy of Management Annual Meeting, 2011
Best Paper Award.
- A Hybrid Movie Recommender System
Yi Peng, **Wenli Zhang**, Gang Kou
WISE - Workshop on Information Systems Economics, 2011

INVITED TALKS AND CONFERENCE PRESENTATIONS

- Predicting Consultation Success in Online Health Platforms Using Dynamic Knowledge Networks and Multimodal Data Fusion, University of Arizona, 2024
- Predicting Consultation Success in Online Health Platforms Using Dynamic Knowledge Graphs and Multimodal Data Fusion, Summer Workshop on AI for Business (SWAIB), Shanghai, China, 2024
- Achieving Equitable Access to Medical Laboratory Tests through Optimal Sparse Decision Tree, IISE Annual Conference & Expo, Montreal, Canada, 2024
- Attention-Deficit/Hyperactivity Disorder Prognosis using Multi-Modal and Multi-Channel Polysomnography Data, IISE Annual Conference & Expo, Montreal, Canada, 2024
- Patient Dropout Prediction in Virtual Health: A Multimodal Dynamic Knowledge Graph and Text Mining Approach, INFORMS Workshop on Data Science, Arizona, USA, 2023
- ICU Outcome Predictions Using Real-Time Signals with Wavelet-Transform-based Convolutional Neural Network, in: Proceedings of the 54th Hawaii International Conference on System Sciences (HICSS), 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), 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 Recommender 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 Bootstrap Grant, Ivy College of Business, Iowa State University, \$6,000 per enrollment period, Spring 2021, Spring 2022, Spring 2023, Spring 2024.
- Research Mini Grant, Ivy College of Business, Iowa State University, \$1,000 per enrollment period, Spring 2025.
- Research Mini Grant, Ivy College of Business, Iowa State University, \$750 per enrollment period, Fall 2020, Spring 2021, Fall 2021, Spring 2022, Fall 2022, Spring 2023, Fall 2023, Spring 2024, Fall 2024.
- 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.
- 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 6th Chinese Academy of Management Annual Meeting (CAMAM), 2011

TEACHING

- MIS 5360, Business Analytics Foundation, Iowa State University (graduate level)
- MIS 5460, Advanced Business Analytics, Iowa State University (graduate level)
- MIS 5200, Healthcare Analytics, Iowa State University (graduate level)
- MIS 4460, Advanced Business Analytics, Iowa State University (undergraduate level)
- MIS 304, Using and Managing Information System, University of Arizona (undergraduate level)

SERVICE

- Journal editorial review board service
 - Editorial Board, Journal of Business Analytics, 2021 -
- Conference editorial review board service
 - Program Committee, Summer Workshop on AI for Business (SWAIB), 2025
 - 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
 - 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, 2025
 - Program committee, AAAI: International Workshop on Health Intelligence, 2020, 2021
- Reviews 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
- Reviews 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
- Iowa State University
 - 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

PROFESSOR ORGANIZATION MEMBERSHIPS

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