

XIAO LIU

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Department of Information Systems
W. P. Carey School of Business
Arizona State University

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EDUCATION

Ph.D.	Eller College of Management, University of Arizona Major: Management Information Systems Minor: Computational Linguistics	2016
M.S.	Computer Science, Tongji University	2011
B.S.	Information Security, Tongji University	2008

RESEARCH INTERESTS

Domains	Health Informatics, Social Media Analytics, Public Health Surveillance
Methods	Natural Language Processing, Machine Learning

RESEARCH

Publications

Jiaheng Xie, [Xiao Liu](#), Daniel Dajun Zeng, and Xiao Fang. “Understanding Medication Nonadherence from Social Media: A Sentiment-Enriched Deep Learning Approach.” *MIS Quarterly*. Forthcoming. doi: 10.25300/MISQ/2021/15336.

Jiaheng Xie, Zhu Zhang, [Xiao Liu](#), Daniel Dajun Zeng. “Understanding Barriers to Opioid Addiction Treatments from Social Media: A Semantic Network-Based Deep Learning Approach.” *Journal of Management Information Systems*, 2021. Jan 2;38(1):166-95.

Jessica Sheng, Paul Hu, [Xiao Liu](#), Tingshuo Huang, and Yu-Hsien Chen. “Predictive Analytics for Caring and Managing Acute Disease Patients: A Deep Learning–Based Method to Predict Crucial Complications Phenotypes.” *Journal of Medical Internet Research*, 2021, Feb 12;23(2):e18372. doi: 10.2196/18372.

[Xiao Liu](#), Bin Zhang, Anjana Susarla and Rema Padman. “Go to YouTube and See Me Tomorrow: Use of Social Media for Chronic Conditions.” *MIS Quarterly* Volume 44, Issue 1, 2020, 257-283.

Jiaheng Xie, [Xiao Liu](#), and Daniel Dajun Zeng. “Mining e-cigarette adverse events in social media using Bi-LSTM recurrent neural network with word embedding representation.” *Journal of the American Medical Informatics Association* 25.1, 2017, 72-80.

Xiao Liu and Hsinchun Chen. “Identifying Adverse Drug Events from Patient Social Media: A Case Study for Diabetes.” *IEEE Intelligent System* Volume 30, Issue 3. 2015. 44-49.

Xiao Liu and Hsinchun Chen. “A Research Framework for Pharmacovigilance in Health Social Media: Identification and Evaluation of Patient Adverse Drug Event Reports.” *Journal of Biomedical Informatics* 58, 2015, 268-279.

Papers Under Review

Xueyan Yin, Victor Benjamin, Xiao Liu, and Pei-yu Chen. “Toward an Understanding of the Effects of Mixed Media Formats: A Research Framework and An Empirical Investigation.” 2nd round under review at *MIS Quarterly*.

Xiao Liu, Anjana Susarla and Rema Padman. “Ask the Doctor if YouTube is Right for You: A Human Augmented Patient Educational Video Recommender System.” 2nd round under review at *Information Systems Research*.

Jiaheng Xie, Yidong Chai and Xiao Liu. “Understanding Health Misinformation Transmission: An Interpretable Deep Learning Approach to Manage Infodemics.” 2nd round under review at *Information Systems Research*.

Work-in Progress Papers

Krishna Pothugunta, Xiao Liu, Anjana Susarla, Rema Padman, “Bias Aware Recommendations and Algorithmic Transparency in Digital Platforms.” Under preparation. Targeting *MIS Quarterly*. (Dec. 2022).

Yu Zhu, Xiao Liu, and Olivia Sheng. “GradPerp: A New Method to Predict Market Response to Earnings Calls with Multi-task Learning.” Under preparation. Targeting *Information Systems Research*. (Jun. 2022).

Anqi Xu, Xiao Liu, and Paul Jen-Hwa Hu. “Examining Effects of Fit between Patient Need and Social Support: A Deep Learning-Based Multi-Label Classification Approach.” Targeting *ISR* (Dec. 2022)

Conference Papers

Xiao Liu, Anjana Susarla, and Rema Padman, “Machine Learning Approaches for Accessible Public Health Information about COVID-19,” *International Conference on Learning Representations (ICLR) AI for Public Health Workshop*, May 2021.

Anqi Xu, Xiao Liu, Paul Hu. “A Novel Deep Learning-Based Multilabel Classification Method for Text Mining.” *INFORMS Data Science Workshop 2021*.

Xiao Liu, Anjana Susarla, and Rema Padman. “Harnessing User-Generated Content for Patient Education: Evidence from YouTube.” *The 32nd Workshop on Information Systems and Economics (WISE)* 2021.

Jiaheng Xie, Yidong Chai and Xiao Liu. “An Interpretable Deep Learning Approach to Understand Health Misinformation Transmission on YouTube.” *31st Workshop on Information Technologies and Systems (WITS)* 2021.

Xiao Liu, Anjana Susarla, and Rema Padman. “Addressing Public Health Literacy Disparities through Machine Learning: A Human in the Loop Augmented Intelligence based Tool for Public Health.” *NeurIPS MLPH Workshop* 2020.

Yawen Guo, Xiao Liu, Anjana Susarla, and Rema Padman. “YouTube Video Analytics for Patient Engagement: Evidence from Colonoscopy Preparation Videos.” *30th Workshop on Information Technologies and Systems* 2020.

Xiao Liu, Bin Zhang, Anjana Susarla, and Rema Padman. “YouTube Video Analytics for Patient Self-care of Chronic Disease.” 2019 *American Medical Informatics Association (AMIA) Annual Symposium*.

Anqi Xu, Xiao Liu, and Paul Jen-Hwa Hu. “Examining Effects of Fit between Patient Need and Social Support: A Deep Learning-Based Multi-Label Classification Approach.” *International Conference on Information Systems* 2019.

Jiaheng Xie, Zhu Zhang, Xiao Liu, and Daniel Zeng. “Discovering Barriers to Opioid Addiction Treatment from Social Media: A Similarity Network-Based Deep Learning Approach.” *International Conference on Information Systems* 2019.

Jessica Sheng, Xiao Liu, and Paul Jen-Hwa Hu. “Extracting User Interest Drifts in Social Networks for Time-Aware Personalized Recommendation: A Graph-based Representation Learning Approach.” *29th Workshop on Information Technologies and Systems* 2019.

Xueyan Yin, Xiao Liu, Victor Benjamin, and Pei-yu Chen. “How to Create a Successful Campaign: Analytics of Kickstarter Projects.” *29th Workshop on Information Technologies and Systems* 2019.

Xiao Liu, Bin Zhang, Anjana Susarla, Rema Padman. “YouTube for Patient Education: A Deep Learning Approach for Understanding Medical Knowledge from User-Generated Videos,” *KDD Workshop on Machine Learning for Medicine and Healthcare*, London, UK, August 2018.

Jiaheng Xie, Zhu Zhang, Xiao Liu, and Daniel Zeng. “Discovering Barriers to Opioid Addiction Treatment from Social Media: A Similarity Network-Based Deep Learning Approach.” *Conference on Health IT and Analytics* 2019.

Xiao Liu, Anjana Susarla and Rema Padman. “Ask the Doctor if YouTube is Right for You: A Human Augmented Patient Educational Video Recommender System.” *Conference on Health IT and Analytics* 2019.

Jessica Sheng, Xiao Liu, Paul Hu, and Tingshuo Huang. “Predictive Analytics for Acute Illness Care: A Deep Learning Approach for Complication Phenotype Prediction.” *INFORMS Workshop on Data Science*, 2018.

Jiaheng Xie, Xiao Liu, Daniel Zeng, and Xiao Fang. “Discovering Medication Nonadherence Reasons with Sentiment-Enriched Deep Learning Approach.” *Conference on Health IT and Analytics (CHITA)*, 2018.

Jiaheng Xie, Xiao Liu, Daniel Zeng, and Xiao Fang. “Understanding Reasons for Medication Nonadherence: An Exploration in Social Media Using A Sentiment-Enriched Deep Learning Approach.” *International Conference on Information Systems*, 2017.

Xiao Liu, Bin Zhang, Anjana Susarla and Rema Padman. “Go to YouTube and See Me Tomorrow: Social Media and Self-Care of Chronic Conditions.” *Conference on Health IT and Analytics (CHITA)*, 2017.

Jiaheng Xie, Xiao Liu, and Daniel Zeng. “Mining e-cigarette adverse events in social media using Bi-LSTM recurrent neural network with word embedding representation.” *INFORMS Annual Meeting*, 2016.

Xiao Liu and Hsinchun Chen. “Identifying Novel Adverse Drug Events from Health Social Media Using Distant Supervision.” *Annual Meeting of American Medical Informatics Association (AMIA)*, 2015.

Xiao Liu and Hsinchun Chen. “Identifying Adverse Drug Events from Health Social Media Using Distant Supervision.” *The INFORMS Conference on Information Systems and Technology (CIST)*, 2015.

Xiao Liu and Hsinchun Chen. “AZDrugMiner: an Information Extraction System for Mining Patient-reported Adverse Drug Events in Online Patient Forums.” *International Conference on Smart Health*. Springer Lecture Notes in Computer Science, 2013. 134-150.

TEACHING

Instructor, Arizona State University

CIS 415: Big Data Analytics in Business
Fall 2019: 6.0/7.0, 6.9/7.0, and 6.7/7.0, 88 UG students
Fall 2020: 6.5, 6.2, and 6.6
CIS 593: Applied Project
Spring 2021: 6.5

Instructor, University of Utah

IS6482: Introduction to Data Mining
Spring 2019: 5.5/6 and 5.6/6, 110 MS students

IS6483: Advanced Data Mining
Spring 2019: 5.8/6, 20 MS students

Instructor, University of Arizona

MIS 304: Using and Managing Information Systems.
Summer 2014: 4.5/5.0, 18 UG students

Training

Certificate in College Teaching, University of Arizona.
Nov. 2014: Completed

HONORS AND AWARDS

2021	Best Paper Award at <i>31st Workshop on Information Technologies and Systems (WITS)</i>
2021	NIH - R01: "Leveraging YouTube Video Analytics for Patient Education on Health Management: A Digital Therapy Tool for Clinicians." Funding Amount: \$984k (ASU Share: \$262K). Role: ASU Site PI. Duration: 2021-2024. (Awarded, contract in progress).
2020	Best Lightning Paper at <i>Machine Learning in Public Health (MLPH) Workshop in NeurIPS</i>
2020	Research Grant on Teaching and Learning at W. P. Carey School of Business
2019	Best Paper Runner-up at <i>International Conference on Smart Health</i>
2017	Best Paper Nominee at <i>Conference on Health IT and Analytics (CHITA)</i>
2016	Meritorious Mention for the Annual Best Published Paper Award by SIG-Health at Association for Information Systems

PROFESSIONAL SERVICE

Referee: Journal	MIS Quarterly Information Systems Research Management Science Journal of Management Information Systems ACM Transactions on Management Information Systems
Referee: Conference	International Conference on Information Systems (ICIS) INFORMS Workshop on Data Science Workshop on Information Technologies and Systems American Medical Informatics Association (AMIA) Annual Symposium

ACADEMIC / PROFESSIONAL EMPLOYMENT

Assistant Professor at the IS department, Arizona State University	2019- present
Assistant Professor at the OIS department, University of Utah	2016- 2019
Research Associate at Artificial Intelligence Lab, University of Arizona	2011- 2016
Consultant at SAP Labs China	2010- 2011