

Jiawei Zhang

Curriculum Vitae

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Last Update: June 17, 2021

Research Interests

Machine Learning

Deep Learning; Broad Learning; Graph Neural Network; Stochastic Optimization

Data Mining and Big Data

Information Fusion; Graph Mining; Heterogeneous Information Networks

Applications

Social Network Studies; Fake News Detection; Smart City; Bioinformatics

Professional Experiences

- 2021–Present **Assistant Professor.**
Department of Computer Science, University of California, Davis
- 2017–2021 **Assistant Professor.**
Department of Computer Science, Florida State University
- 2017–Present **Founder and Director.**
Information Fusion and Mining Laboratory

Education

- 2012–2017 **Ph.D. in Computer Science.**
University of Illinois at Chicago, Chicago, IL, USA
- *Thesis:* Fusion of Heterogeneous Social Networks for Synergistic Knowledge Discovery
 - *Advisor:* Philip S. Yu, Ph.D.
- 2008–2012 **B.S. in Computer Science.**
Nanjing University, Nanjing, Jiangsu, China

Research Experiences

- 2013–2017 **Graduate Research Assistant, University of Illinois at Chicago, Chicago, IL.**
◦ *Advisor:* Philip S. Yu, Ph.D.
- 2016 **Research Intern, Yahoo! Research, Sunnyvale, CA.**
◦ *Mentors:* Jianhui Chen, Ph.D. and Yi Chang, Ph.D.
- 2015 **Research Intern, IBM T. J. Watson Research Center, Yorktown Heights, NY.**
◦ *Mentor:* Charu Aggrawal, Ph.D.

- 2014 **Research Intern, Microsoft Research**, Mountain View, CA.
○ *Mentor:* Yuanhua Lv, Ph.D.

Awards and Honors

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|------|--------------------------------------|------------------------|
| 2020 | Best Student Paper Runner Up Award | <i>IEEE ICDM</i> |
| 2018 | First Year Assistant Professor Award | <i>FSU</i> |
| 2018 | Best Student Paper Runner Up Award | <i>ACM SIGKDD</i> |
| 2016 | Best Student Paper Runner Up Award | <i>IEEE/ACM ASONAM</i> |

Grant Proposals

Funded Proposals

3 Funded Proposals, Total Budget \$1.72M (My Share \$570K)

- June 2018 **III: Medium: Collaborative Research: An Extensible Heterogeneous Network Embedding Framework with Application Specific Adaptation.**
○ PI, NSF Division of Information & Intelligent Systems
○ Personal Share: \$550K/\$1.2M
- March 2018 **CRC: Cyberspace Fake News Article and Creator Detection via a Multi-Perspective Approach.**
○ sole-PI, FSU Council on Research and Creativity
○ Personal Share: \$20K
- March 2015 **III: Small: Fusion of Heterogeneous Networks for Synergistic Knowledge Discovery.**
○ co-PI, NSF Division of Information & Intelligent Systems
○ Total Budget: \$500K

Pending Proposals

3 Submitted Proposals, Total Budget \$2.3M (My Share \$1.7M)

- Aug. 2020 **CAREER: Heterogeneous Social Network Alignment and Knowledge Discovery.**
○ Sole PI, NSF CAREER
○ Personal Share/Total Budget: \$600K/\$600K
- Nov. 2020 **III: Medium: Collaborative Research: Scalable Deep Fusion Model for Multi-modal EHR Data.**
○ PI, NSF Division of Information & Intelligent Systems
○ Personal Share: \$600K/\$1.2M

- Nov. 2020 **III: Medium: Collaborative Research: Self-Supervised Recommender System Learning with Application Specific Adaption.**
- Sole PI, NSF Division of Information & Intelligent Systems
 - Personal Share: \$600K/\$1.2M

Course Teaching

- 2021 Spring **CIS 5725-0001: Advanced Database Systems.**
Department of Computer Science
Florida State University
- 2020 Fall **COP 4710-0001: Databases.**
Department of Computer Science
Florida State University
- 2020 Spring **CIS 5930-0003: Deep Learning and Applications.**
Department of Computer Science
Florida State University
- 2019 Fall **COP 4710-0001: Databases.**
Department of Computer Science
Florida State University
- 2019 Spring **CIS 5930-0002: Advanced Data Mining.**
Department of Computer Science
Florida State University
- 2018 Fall **COP 4710-0001: Databases.**
Department of Computer Science
Florida State University
- 2018 Spring **CIS 5930-0004: Social Network Mining.**
Department of Computer Science
Florida State University

Student Mentoring

Mentored Students

- 2019–Present **Haopeng Zhang.**
- Current: PhD Student@Florida State University
 - Research Topic: Text Mining
 - Collaborated Papers: [16], [29]
- 2018–Present **Lin Meng.**
- Current: PhD Student@Florida State University
 - Research Topic: Graph Mining
 - Collaborated Papers: [53], [52], [45], [43], [40], [20], [21]

2018–Present **Yuxiang Ren.**

- Current: PhD Student@Florida State University
- Research Topic: Text Mining and Graph Mining
- Collaborated Papers: [52], [46], [40], [39], [30], [22], [41], [103], [25], [26], [27], [28]

2017–2017 **Conying Xia.**

- Current: PhD Candidate@University of Illinois at Chicago
- Research Topic: Network Embedding
- Collaborated Papers: [68], [15], [16]

2016–2017 **Chenwei Zhang.**

- Current: Applied Scientist@Amazon
- Research Topic: Deep Learning Application in Data Mining
- Collaborated Papers: [63], [69], [51], [68], [15]

2015–2016 **Junxing Zhu.**

- Current: Assistant Professor@National University of Defense Technology
- Research Topic: User Resolution and Alignment across Networks
- Collaborated Papers: [66], [116], [69], [119]

2014–2016 **Qianyi Zhan.**

- Current: Assistant Professor@Jiangnan University
- Research Topic: Information Diffusion and Viral Marketing
- Collaborated Papers: [78], [79], [83], [85], [96], [81], [118], [110], [113], [114]

PhD Thesis Committee

April 2021 **Yuxiang Ren.**

- Current: PhD Candidate@Florida State University
- PhD Prospectus Exam: Mining on Graphs: Graph Neural Network and Applications.

Feb. 2021 **Congying Xia.**

- Current: PhD Candidate@University of Illinois at Chicago
- PhD Prelim Exam: Natural Language Understanding for Conversational Agents.

Feb. 2021 **He Huang.**

- Current: PhD Candidate@University of Illinois at Chicago
- PhD Prelim Exam: Label Scarcity in Computer Vision: From Long Tail to Zero-shot.

Feb. 2021 **Daniel Bis.**

- Current: PhD Candidate@Florida State University
- PhD Area Exam: Layered Multistep Bidirectional Long Short-Term Memory Networks for Biomedical Word Sense Disambiguation.

October 2019 **Soumak Mookherjee.**

- Current: PhD Candidate@Florida State University
- PhD Area Exam: Generalization of Deep Neural Network.

- April 2019 **Lei Zheng.**
- Current: PhD Candidate@University of Illinois at Chicago
 - PhD Dissertation Defense Talk: Deep Learning for Recommender Systems
- April 2019 **Chenwei Zhang.**
- Current: PhD Candidate@University of Illinois at Chicago
 - PhD Dissertation Defense Talk: Structured Knowledge Discovery from the Massive Text Corpus
- Feb 2019 **Xinyue Liu.**
- Current: PhD Candidate@Worcester Polytechnic Institute
 - PhD Dissertation Defense Talk: On Graph Discovery and Synthesis
- Feb 2019 **Chenwei Zhang.**
- Current: PhD Candidate@University of Illinois at Chicago
 - PhD Preliminary Talk: Structured Knowledge Discovery from Massive Text Corpus.
- October 2018 **Lei Zheng.**
- Current: PhD Candidate@University of Illinois at Chicago
 - PhD Preliminary Talk: Recommender System Build with Deep Learning.
- April 2018 **Xinyue Liu.**
- Current: PhD Candidate@Worcester Polytechnic Institute
 - PhD Defense Proposal Talk: Synergistic Graph Discovery and Generation
- March 2018 **Haixu Wang.**
- Current: PhD Candidate@Florida State University
 - PhD Candidacy Talk: Network Origins of Aggregate Volatility and Macroeconomic Tail Risks
- Master Thesis Committee**
- July 2018 **Yu Zhang.**
- Current: Master Student@Florida State University
 - Defense Talk: Big Data and Movie Recommender System

Research Publication

Academic No. citations: 3,161, h-index: 25 (By June 17, 2021)
 Impact (Source: <https://scholar.google.com/citations?user=7AkZSJAAAAJ&hl=en>)

Books

- [1] **Jiawei Zhang** and Philip S. Yu. Broad Learning through Fusions: An Application on Social Networks. ISBN 978-3-030-12527-1. Springer. 2019.

Book Chapters

- [2] **Jiawei Zhang** and Philip S. Yu. Broad Learning based Social Community Detection. Springer.

- [3] **Jiawei Zhang**. Chapter 6: Fusion Learning on Heterogeneous Social Networks. Heterogeneous Information Network Analysis and Applications (Data Analytics), Chuan Shi and Philip S. Yu, Springer.
- [4] **Jiawei Zhang** and Philip S. Yu. Chapter: Cross-Platform Social Network Analysis. Encyclopedia of Social Network Analysis and Mining 2nd Edition, 2016.

Survey Papers

- [5] **Jiawei Zhang**. Social Network Fusion and Mining: A Survey. May 2018.
- [6] **Jiawei Zhang**. Link Prediction across Heterogeneous Social Networks: A Survey.
- [7] Philip S. Yu, **Jiawei Zhang**. On Mining Big Data and Social Network Analysis. July 2014.

Tutorial Articles

- [8] **Jiawei Zhang**. IFM Lab Tutorial Series # 1: Gradient Descent based Optimization Algorithms for Deep Learning Models Training. First Version: February 2019.
- [9] **Jiawei Zhang**. IFM Lab Tutorial Series # 2: Derivative-Free Global Optimization Algorithms: Bayesian Method and Lipschitzian Approaches. First Version: March 2019.
- [10] **Jiawei Zhang**. IFM Lab Tutorial Series # 3: Derivative-Free Global Optimization Algorithms: Population based Methods and Random Search Approaches. First Version: March 2019.
- [11] **Jiawei Zhang**. IFM Lab Tutorial Series # 4: Secrets of the Brain: An Introduction to the Brain Anatomical Structure and Biological Function. First Version: April 2019.
- [12] **Jiawei Zhang**. IFM Lab Tutorial Series # 5: Basic Neural Units of the Brain: Neurons, Synapses and Action Potential. First Version: May 2019.
- [13] **Jiawei Zhang**. IFM Lab Tutorial Series # 6: Cognitive Functions of the Brain: Perception, Attention and Memory. First Version: May 2019.
- [14] **Jiawei Zhang**. IFM Lab Tutorial Series # 7: Graph Neural Networks for Small Graph and Giant Network Representation Learning: An Overview. First Version: July 2019.

Preprints (* My PhD Students)

- [15] Congying Xia, Chenwei Zhang, Hoang Nguyen, **Jiawei Zhang** and Philip Yu. CG-BERT: Conditional Text Generation with BERT for Generalized Few-shot Intent Detection. ArXiv abs/2004.01881. 2020.
- [16] **Jiawei Zhang**, Haopeng Zhang*, Congying Xia and Li Sun. GRAPH-BERT: Only Attention is Needed for Learning Graph Representations. ArXiv abs/2001.05140. 2020.

- [17] **Jiawei Zhang**. Segmented GRAPH-BERT for Graph Instance Modeling. ArXiv abs/2002.03283. 2020.
- [18] **Jiawei Zhang**. Graph Neural Distance Metric Learning with GRAPH-BERT. ArXiv abs/2002.03427. 2020.
- [19] **Jiawei Zhang**. G5: A Universal GRAPH-BERT for Graph-to-Graph Transfer and Apocalypse Learning. ArXiv abs/2006.06183. 2020.
- [20] Yixin Chen, Lin Meng* and **Jiawei Zhang**. Graph Neural Lasso for Dynamic Network Regression. ArXiv abs/1907.11114. 2019.
- [21] **Jiawei Zhang** and Lin Meng*. GResNet: Graph Residual Network for Reviving Deep GNNs from Suspended Animation. ArXiv abs/1909.05729. 2019.

Conference and Workshop Papers (* My PhD Students)

- [22] Yuxiang Ren*, Hao Zhu, **Jiawei Zhang**, Peng Dai and Liefeng Bo. EnsemFDet: An Ensemble Approach to Fraud Detection based on Bipartite Graph. In: Proceedings of the 37th IEEE International Conference on Data Engineering (*ICDE '21*), Chania Crete, Greece. April 19-22, 2021.
- [23] Li Sun, Zhongbao Zhang, **Jiawei Zhang**, Feiyang Wang, Hao Peng, Sen Su and Philip S. Yu. Hyperbolic Variational Graph Neural Network for Modeling Dynamic Graphs. In: Proceedings of the 35th AAAI Conference on Artificial Intelligence (AAAI '21), Virtual Conference, February 2-9, 2021.
- [24] Qingqin Wang, Yun Xiong, Yao Zhang, **Jiawei Zhang** and Yangyong Zhu. AutoCite: Multi-Modal Representation Fusion for Contextual Citation Generation. In: Proceedings of the 14th ACM International Conference on Web Search and Data Mining (*WSDM '21*), Jerusalem, Israel. March 8-12, 2021.
- [25] Yuxiang Ren*, Jiyang Bai and **Jiawei Zhang**, Peng Dai and Liefeng Bo. Label Contrastive Coding based Graph Neural Network for Graph Classification. In: Proceedings of the 26th International Conference on Database Systems for Advanced Applications(*DASFAA '21*), Hybrid Conference. April 11-14, 2021.
- [26] Jiyang Bai, Yuxiang Ren* and **Jiawei Zhang**. Ripple Walk Training: A Subgraph-based training framework for Large and Deep Graph Neural Networks. In: Proceedings of the International Joint Conference on Neural Networks (*IJCNN '21*), Virtual Event, July 18-22, 2021.
- [27] Jiyang Bai, Yuxiang Ren* and **Jiawei Zhang**. BGADAM: Boosting based Genetic-Evolutionary ADAM for Deep Convolutional Neural Network Optimization. In: Proceedings of the International Joint Conference on Neural Networks (*IJCNN '21*), Virtual Event, July 18-22, 2021.
- [28] Yuxiang Ren* and **Jiawei Zhang**. Fake News Detection on News-Oriented Heterogeneous Information Networks through Hierarchical Graph Attention. In: Proceedings of the International Joint Conference on Neural Networks (*IJCNN '21*), Virtual Event, July 18-22, 2021.

- [29] Haopeng Zhang* and **Jiawei Zhang**. Text Graph Transformer for Document Classification. In: Proceedings of the 2020 Conference on Empirical Methods in Natural Language Processing (*EMNLP '20*). November 16-20, 2020.
- [30] Yuxiang Ren*, Bo Wang, **Jiawei Zhang** and Yi Chang. Adversarial Active Learning based Heterogeneous Graph Neural Network for Fake News Detection. In: Proceedings of the 20th IEEE International Conference on Data Mining (*ICDM '20*), Sorrento, Italy, November 17-20, 2020.
- [31] Li Sun, Zhongbao Zhang, **Jiawei Zhang**, Feiyang Wang, Yang Du, Sen Su and Philip S. Yu. PERFECT: A Hyperbolic Embedding for Joint Social Network Alignment. In: Proceedings of the 20th IEEE International Conference on Data Mining (*ICDM '20*), Sorrento, Italy, November 17-20, 2020.
- [32] Yizhu Jiao, Yun Xiong, **Jiawei Zhang**, Yao Zhang, Tianqi Zhang and Yangyong Zhu. Sub-graph Contrast for Scalable Self-Supervised Graph Representation Learning. In: Proceedings of the 20th IEEE International Conference on Data Mining (*ICDM '20*), Sorrento, Italy, November 17-20, 2020.
- [33] Tianqi Zhang, Yun Xiong, **Jiawei Zhang**, Yao Zhang, Yizhu Jiao and Yangyong Zhu. CommDGI: Community Detection Oriented Deep Graph Infomax. In: Proceedings of the 29th ACM International Conference on Information and Knowledge Management (*CIKM '20*), Online, October 19-23, 2020.
- [34] **Jiawei Zhang**. Get Rid of Suspended Animation Problem: Deep Diffusive Neural Network on Graph Semi-Supervised Classification. Workshop on Graph Representation Learning and Beyond (GRL+). In: 37th International Conference on Machine Learning (*ICML '20*), Online, July 12-18, 2020.
- [35] Zhiwei Yang, Hechang Chen, **Jiawei Zhang**, Jing Ma and Yi Chang. Attention-based Multi-level Feature Fusion for Named Entity Recognition. In: Proceedings of the 29th International Joint Conference on Artificial Intelligence (*IJCAI '20*), Yokohama, Japan, July 11-17, 2020.
- [36] Fuxin Ren, Zhongbao Zhang, **Jiawei Zhang**, Sen Su, Li Sun, Guozhen Zhu and Congying Guo. BANANA: when Behavior ANALysis meets social Network Alignment. In: Proceedings of the 29th International Joint Conference on Artificial Intelligence (*IJCAI '20*), Yokohama, Japan, July 11-17, 2020.
- [37] **Jiawei Zhang**, Bowen Dong and Philip S. Yu. FAKEDETECTOR: Effective Fake News Detection with Deep Diffusive Neural Network. In: Proceedings of the 36th IEEE International Conference on Data Engineering (*ICDE '20*), Dallas, Texas, USA, April 20-24, 2020.
- [38] Yu Li, **Jiawei Zhang** and Yi Chang. Learning Signed Network Embedding via Graph Attention. In: Proceedings of the Thirty-Fourth AAAI Conference on Artificial Intelligence (*AAAI '20*), New York City, New York, USA, February 7-12, 2020.
- [39] Yuxiang Ren*, Bo Liu, Chao Huang, Peng Dai, Liefeng Bo and **Jiawei Zhang**. Heterogeneous Deep Graph Infomax. Workshop of Deep Learning on Graphs:

Methodologies and Applications co-located with the Thirty-Fourth AAAI Conference on Artificial Intelligence (AAAI '20), New York City, New York, USA, February 7-12, 2020.

- [40] Yuxiang Ren*, Lin Meng* and **Jiawei Zhang**. Scalable Heterogeneous Social Network Alignment through Synergistic Graph Partition. In: Proceedings of the 31st ACM Conference on Hypertext and Social Media (*HT '20*), July 13-15, 2020.
- [41] Jiyang Bai, Yuxiang Ren* and **Jiawei Zhang**. DEAM: Accumulated Momentum with Discriminative Weight for Stochastic Optimization. In: Proceedings of the 2020 IEEE/ACM International Conference on Advances in Social Network Analysis and Mining (*ASONAM '20*), December 7-10, 2020.
- [42] Xing Jia, Yun Xiong, **Jiawei Zhang**, Yao Zhang and Yangyong Zhu. Few-shot Radiology Report Generation for Rare Diseases. In: Proceedings of the 2020 International Conference on Bioinformatics and Biomedicine (*BIBM '20*), Seoul, South Korea, December 16-19, 2020.
- [43] Lin Meng, Ning Yan, Masood Mortazavi and **Jiawei Zhang**. Discovering Localized Information for Heterogeneous Graph Node Representation Learning. In: Proceedings of the 6th IEEE International Conference on Collaboration and Internet Computing. (*CIC '20*), Virtual Conference, December 1-3, 2020.
- [44] Congying Xia, Chenwei Zhang, **Jiawei Zhang**, Tingting Liang, Hao Peng and Philip S. Yu. Low-shot Learning in Natural Language Processing. In: Proceedings of the 2nd IEEE International Conference on Cognitive Machine Intelligence. (*CogMI '20*), Virtual Conference, December 1-3, 2020.
- [45] Lin Meng* and **Jiawei Zhang**. IsoNN: Isomorphic Neural Network for Graph Representation Learning and Classification. Graph Representation Learning Workshop of the 33rd Conference on Neural Information Processing Systems (*NIPS '19*), Vancouver, Canada, December 8-14, 2019.
- [46] Yuxiang Ren*, Charu C. Aggarwal and **Jiawei Zhang**. Meta Diagram based Active Social Networks Alignment. In: Proceedings of the 35th IEEE International Conference on Data Engineering (*ICDE '19*), Macau SAR, China, April 8-12, 2019.
- [47] Yu Li, Ying Wang, Tingting Zhang, **Jiawei Zhang** and Yi Chang. Learning Network Embedding with Community Structural Information. In: Proceedings of the 28th International Joint Conference on Artificial Intelligence (*IJCAI '19*), Macau SAR, China, August 10-16, 2019.
- [48] Lei Zheng, Ziwei Fan, Chun-Ta Lu, **Jiawei Zhang** and Philip S. Yu. Gated Spectral Units: Modeling Co-evolving Patterns for Sequential Recommendation. In: Proceedings of the 42nd International ACM SIGIR Conference on Research and Development in Information Retrieval (*SIGIR '19*), Paris, France, July 21-25, 2019.

- [49] Lei Zheng, Chaozhuo Li, Chun-Ta Lu, **Jiawei Zhang** and Philip S. Yu. Deep Distribution Network: Addressing the Data Sparsity Issue for Top-N Recommendation. In: Proceedings of the 42nd International ACM SIGIR Conference on Research and Development in Information Retrieval (*SIGIR '19*), Paris, France, July 21-25, 2019.
- [50] Yizhu Jiao, Yun Xiong, **Jiawei Zhang** and Yangyong Zhu. Collective Link Prediction Oriented Network Embedding with Hierarchical Graph Attention. In: Proceedings of the 28th ACM International Conference on Information and Knowledge Management (*CIKM '19*), Beijing, China, November 3-7, 2019.
- [51] Bowen Dong, **Jiawei Zhang**, Chenwei Zhang, Yang Yang and Philip S. Yu. Missing Entity Synergistic Completion across Multiple Isomeric Online Knowledge Libraries. In: Proceedings of the 2019 International Joint Conference on Neural Networks (*IJCNN '19*), Budapest, Hungary, July 14-19, 2019.
- [52] Lin Meng*, Yuxiang Ren*, **Jiawei Zhang**, Fanghua Ye and Philip S. Yu. Deep Heterogeneous Social Network Alignment. In: Proceedings of the 5th IEEE International Conference on Collaboration and Internet Computing (*CIC '19*), Los Angeles, CA, USA, December 12-14, 2019.
- [53] Lin Meng*, Jiyang Bai, **Jiawei Zhang**. LATTE: Application Oriented Network Embedding. In: Proceedings of the 36th IEEE International Conference on Data Engineering (*BigData '19*), Los Angeles, CA, USA, December 9-12, 2019.
- [54] **Jiawei Zhang**, Bowen Dong and Philip S. Yu. Effective Fake News Detection with Deep Diffusive Neural Network. In: Proceedings of the 36th IEEE International Conference on Data Engineering (*BigData '19*), Los Angeles, CA, USA, December 9-12, 2019.
- [55] Zhiwei Liu, Lei Zheng, **Jiawei Zhang**, Jiayu Han and Philip S. Yu. JSCN: Joint Spectral Convolutional Network for Cross Domain Recommendation. In: Proceedings of the 36th IEEE International Conference on Data Engineering (*BigData '19*), Los Angeles, CA, USA, December 9-12, 2019.
- [56] Pengyang Wang, Yanjie Fu, **Jiawei Zhang**, Pengfei Wang, Yu Zheng and Charu Aggarwal. You Are How You Drive: Peer and Temporal-Aware Representation Learning for Driving Behavior Analysis. In: Proceedings of the 24th ACM SIGKDD Conference on Knowledge Discovery and Data Mining (*KDD '18*), London, UK, August 19-23, 2018.
- [57] Limeng Cui, Zhensong Chen, **Jiawei Zhang**, Philip S. Yu, Yong Shi and Lifang He. Multi-view Collective Tensor Decomposition for Cross-modal Hashing. In: Proceedings of the ACM International Conference on Multimedia Retrieval (*ICMR '18*), Yokohama, Japan, June 11-14, 2018.
- [58] Lifang He, Chun-Ta Lu, Yong Chen, **Jiawei Zhang**, Linlin Shen, Philip S. Yu and Fei Wang. A Self-Organizing Tensor Architecture for Multi-View Clustering. In: Proceedings of the 2018 IEEE International Conference on Data Mining (*ICDM '18*), Singapore, November 17-20, 2018.

- [59] Lei Zheng, Chun-Ta Lu, Fei Jiang, **Jiawei Zhang** and Philip S. Yu. Spectral Collaborative Filtering. In: Proceedings of the 12th ACM Conference on Recommender Systems (*RecSys '18*), Vancouver, Canada, October 2-7, 2018.
- [60] Limeng Cui, Zhensong Chen, **Jiawei Zhang**, Lifang He, Yong Shi and Philip S. Yu. Data Fusion for Cross-modal Retrieval Using Tensor Modeling. In: Proceedings of the 2018 IEEE International Conference on Image Processing (*ICIP '18*), Athens, Greece, October 7-10, 2018.
- [61] Kunpeng Liu, Pengyang Wang, **Jiawei Zhang**, Guannan Liu, Yanjie Fu and Sajal K. Das. Incorporating Interaction Coupling among Multi-View Spatiotemporal Contexts for Mobike Destination Prediction. In: Proceedings of the SIAM International Conference on Data Mining (*SDM '18*), San Diego, California, USA, May 3-5, 2018.
- [62] Pengyang Wang, **Jiawei Zhang**, Guannan Liu, Yanjie Fu and Charu C. Aggarwal. Ensemble-Spotting: Prioritizing Vibrant Communities via POI Embedding with Multi-view Spatial Graphs. In: Proceedings of the SIAM International Conference on Data Mining (*SDM '18*), San Diego, California, USA, May 3-5, 2018.
- [63] Ye Liu, **Jiawei Zhang**, Chenwei Zhang and Philip S. Yu. Data-driven Blockbuster Planning on Online Movie Knowledge Library. In: Proceedings of the 2018 IEEE International Conference on Big Data (*BigData '18*).
- [64] **Jiawei Zhang**, Jianhui Chen, Shi Zhi, Yi Chang, Philip S. Yu and Jiawei Han. Link Prediction across Aligned Networks with Sparse Low Rank Matrix Estimation. In: Proceedings of the 2017 IEEE International Conference on Data Engineering (*ICDE '17*), San Diego, California, USA, April 19-22, 2017.
- [65] **Jiawei Zhang**, Philip S. Yu, Yuanhua Lv. Enterprise Social Community Detection via Hierarchical Information Fusion. In: Proceedings of the 2017 IEEE International Conference on Data Engineering (*ICDE '17*), San Diego, California, USA, April 19-22, 2017.
- [66] **Jiawei Zhang**, Jianhui Chen, Junxing Zhu, Yi Chang, and Philip S. Yu. Link Prediction with Cardinality Constraints. In: Proceedings of the 10th ACM International WSDM Conference (*WSDM '17*), Cambridge, UK, February 6-10, 2017.
- [67] **Jiawei Zhang**, Philip S. Yu, Yuanhua Lv. Enterprise Employee Training via Project Team Formation. In: Proceedings of the 10th ACM International WSDM Conference (*WSDM '17*), Cambridge, UK, February 6-10, 2017.
- [68] **Jiawei Zhang**, Congying Xia, Chenwei Zhang, Limeng Cui, Yanjie Fu and Philip S. Yu. BL-MNE: Emerging Heterogeneous Social Network Embedding through Broad Learning with Aligned Autoencoder. In: Proceedings of the IEEE International Conference on Data Mining (*ICDM '17*), New Orleans, Louisiana, USA, November 18-21, 2017.

- [69] Zhu Junxing, **Jiawei Zhang**, Lifang He, Quanyuan Wu, Bin Zhou, Chenwei Zhang and Philip S. Yu. Broad Learning based Multi-Source Collaborative Recommendation. In: Proceedings of the 2017 International Conference on Information and Knowledge Management (*CIKM '17*), Singapore, November 6-10, 2017.
- [70] **Jiawei Zhang**, Limeng Cui, Philip S. Yu and Yuanhua Lv. BL-ECD: Broad Learning based Enterprise Community Detection via Hierarchical Structure Fusion. In: Proceedings of the 2017 International Conference on Information and Knowledge Management (*CIKM '17*), Singapore, November 6-10, 2017.
- [71] **Jiawei Zhang**, Charu Aggarwal and Philip S. Yu. Rumor Initiator Detection in Infected Signed Network. In: Proceedings of the 37th IEEE International Conference on Distributed Computing Systems (*ICDCS '17*), Atlanta, GA, USA, June 5-8, 2017.
- [72] Limeng Cui, **Jiawei Zhang**, Zhensong Chen, Yong Shi, and Philip S. Yu. Inverse Extreme Learning Machine for Learning with Label Proportions. In: Proceedings of the 2017 IEEE International Conference on Big Data (*IEEE BigData 2017*), Boston, MA, USA, December 11-14, 2017.
- [73] Lichao Sun, Xiaokai Wei , **Jiawei Zhang**, Lifang He, Philip S. Yu, and Witawas Srisa-an. PUDroid: Positive and Unlabeled Learning to Detect Zero-day Android Malware. In: Proceedings of the 2017 IEEE International Conference on Big Data (*IEEE BigData 2017*), Boston, MA, USA, December 11-14, 2017.
- [74] **Jiawei Zhang**, Philip S. Yu, Charu C. Aggarwal and Limeng Cui. Social Attitude Expression Prediction in Signed Networks. In: Proceedings of the 6th IEEE International Congress on Big Data (*IEEE BigData Congress '17*), Honolulu, Hawaii, USA, June 25-30, 2017.
- [75] **Jiawei Zhang**, and Philip S. Yu. PCT: Partial Co-Alignment of Social Networks. In: Proceedings of the 25th International World Wide Web Conference (*WWW '16*), Montreal, Canada, April 11-15, 2016.
- [76] Qingbo Hu, Sihong Xie, **Jiawei Zhang**, Qiang Zhu and Philip S. Yu. HeteroSales: Utilizing Heterogeneous Social Networks to Identify the Next Enterprise Customer. In: Proceedings of the 25th International World Wide Web Conference (*WWW '16*), Montreal, Canada, April 11-15, 2016.
- [77] **Jiawei Zhang**, Xiao Pan, Moyin Li and Philip S. Yu. Bicycle-Sharing System Expansion: Station Re-Deployment through Crowd Planning. In: Proceedings of the 24th ACM SIGSPATIAL International Conference on Advances in Geographic Information Systems (*SIGSPATIAL '16*), San Francisco Bay Area, California, USA, October 31-November 3, 2016.
- [78] **Jiawei Zhang**, Philip S. Yu, Yuanhua Lv and Qianyi Zhan. Information Diffusion at Workplace. In: Proceedings of the 25th ACM International Conference on Information and Knowledge Management (*CIKM '16*), Indianapolis, Indiana, USA, October 24-28, 2016.

- [79] **Jiawei Zhang**, Qianyi Zhan, Lifang He, Charu C. Aggarwal and Philip S. Yu. Trust Hole Identification in Signed Networks. In: Proceedings of the 2016 European Conference on Machine Learning and Principles and Practice of Knowledge Discovery (*ECML-PKDD '16*), Riva del Garda, Italy, September 19-23, 2016.
- [80] Guixiang Ma, Lifang He, Bokai Cao, **Jiawei Zhang**, Philip S. Yu, and Ann B. Ragin. Multi-Graph Clustering based on Interior-Node Topology with Applications to Brain Networks. In: Proceedings of the 2016 European Conference on Machine Learning and Principles and Practice of Knowledge Discovery (*ECML-PKDD '16*), Riva del Garda, Italy, September 19-23, 2016.
- [81] Qianyi Zhan, **Jiawei Zhang**, Philip S. Yu, Sherry Emery and Junyuan Xie. Inferring Social Influence of Anti-Tobacco Mass Media Campaigns. In: Proceedings of the IEEE International Conference on Bioinformatics and Biomedicine (*BIBM '16*), Shenzhen, China, December 15-18, 2016.
- [82] **Jiawei Zhang**, Xiangnan Kong and Philip S. Yu. Social Badge System Analysis. In: Proceedings of the 2016 IEEE/ACM International Conference on Advances in Social Networks Analysis and Mining (*ASONAM '16*), San Francisco, CA, USA, 18-21 August, 2016. (**Best Student Paper Runner Up**)
- [83] **Jiawei Zhang**, Senzhang Wang, Qianyi Zhan and Philip S. Yu. Intertwined Viral Marketing in Social Networks. In: Proceedings of the 2016 IEEE/ACM International Conference on Advances in Social Networks Analysis and Mining (*ASONAM '16*), San Francisco, CA, USA, 18-21 August, 2016.
- [84] Xiao Pan, **Jiawei Zhang**, Fengjiao Wang and Philip S. Yu. Distance-based Social Discovery with Posterior Privacy Verification. In: Proceedings of the 2016 IEEE International Conference on Big Data (*IEEE BigData 2016*), Washington D.C., USA, 5-8, December 2016.
- [85] Qianyi Zhan, **Jiawei Zhang**, Philip S. Yu and Junyuan Xie. Discover Tipping Users For Cross Network Influencing. In: Proceedings of the IEEE 17th International Conference on Information Reuse and Integration (*IRI '16*), Pittsburgh, PA, USA, July 28-30, 2016. (Invited Paper)
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- [90] **Jiawei Zhang**, and Philip S. Yu. Multiple Anonymized Social Networks Alignment. In: Proceedings of the IEEE International Conference on Data Mining (*ICDM '15*), Atlantic City, NJ, USA, November 14-17, 2015.
- [91] **Jiawei Zhang** and Philip S. Yu. Integrated Anchor and Social Link Predictions across Partially Aligned Social Networks. In: Proceedings of the International Joint Conference on Artificial Intelligence (*IJCAI '15*), Buenos Aires, Argentinean, July 25-31, 2015.
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- [93] **Jiawei Zhang** and Philip S. Yu. Community Detection for Emerging Networks. In: Proceedings of the 15th SIAM International Conference on Data Mining (*SDM '15*), Vancouver, British Columbia, Canada, April 30-May 2, 2015.
- [94] **Jiawei Zhang**, Weixiang Shao, Senzhang Wang, Xiangnan Kong and Philip S. Yu. PNA: Partial Network Alignment with Generic Stable Matching. In: Proceedings of the 16th IEEE International Conference on Information Reuse and Integration (*IEEE IRI '15*), San Francisco, CA, USA, August 13-15, 2015. (Invited Paper)
- [95] **Jiawei Zhang** and Philip S. Yu. MCD: Mutual Clustering across Multiple Heterogeneous Networks. In: Proceedings of IEEE BigData Congress (*IEEE BigData Congress '15*), New York City, NY, June 27-July 2, 2015. (Invited Paper)
- [96] Qianyi Zhan, **Jiawei Zhang**, Senzhang Wang, Philip S. Yu and Junyuan Xie. Influence Maximization across Partially Aligned Heterogenous Social Networks. In: Proceedings of the 19th Pacific-Asia Conference on Knowledge Discovery and Data Mining (*PAKDD '15*), Ho Chi Minh City, Vietnam, May 19-22, 2015.
- [97] Senzhang Wang, Honghui Zhang, **Jiawei Zhang**, Philip S. Yu and Zhoujun Li. Inferring Diffusion Networks with Structure Transfer. In: Proceedings of the 20th International Conference on Database Systems for Advanced Applications (*DASFAA '15*), Hanoi, Vietnam, April 20-23, 2015.
- [98] **Jiawei Zhang**, Philip S. Yu and Zhi-Hua Zhou. Meta-path based Multi-network Collective Link Prediction. In: Proceedings of the 20th ACM SIGKDD Conference on Knowledge Discovery and Data Mining (*KDD '14*), New York City, NY, August 24-27, 2014.
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- [101] **Jiawei Zhang**, Xiangnan Kong and Philip S. Yu. Predicting Social Links for New Users across Aligned Heterogeneous Social Networks. In: Proceedings of the 13th IEEE International Conference on Data Mining (*ICDM '13*), Dallas, Texas, December 7-10, 2013.
- [102] Xiangnan Kong, **Jiawei Zhang** and Philip S. Yu. Inferring Anchor Links across Heterogeneous Social Networks. In: Proceedings of the 22nd ACM International Conference on Information and Knowledge Management (*CIKM '13*), San Francisco, CA, October 27-November 1, 2013.

Journal Papers (* My PhD Students)

- [103] Yuxiang Ren*, Charu C. Aggarwal and **Jiawei Zhang** and Philip S. Yu. Activelter: Meta Diagram based Active Learning in Social Networks Alignment. TKDE. 2019.
- [104] Senzhang Wang, Hao Chen, Jiannong Cao, **Jiawei Zhang** and Philip S. Yu. Locally Balanced Inductive Matrix Completion for Demand-Supply Inference in Stationless Bike-Sharing Systems. TKDE. 2019.
- [105] Sina Sajadmanesh, Sogol Bazargani, **Jiawei Zhang** and Hamid R. Rabiee. Continuous-Time Relationship Prediction in Dynamic Heterogeneous Information Networks. TKDD. 2019.
- [106] Xiao Pan, Ma Ang, **Jiawei Zhang** and Lei Wu. Approximate Similarity Measurements on Multi-Attributes Trajectories Data. IEEE Access. 2019.
- [107] Limeng Cui, **Jiawei Zhang**, Lifang He and Philip S. Yu. Multi-view collective tensor decomposition for cross-modal hashing. IJMIR. 2019.
- [108] **Jiawei Zhang** and Philip S. Yu. Broad Learning: An Emerging Area in Social Network Analysis. SIGKDD Explorations. 2018.
- [109] Taisong Li, **Jiawei Zhang**, Philip Yu, Yan Zhang and Yonghong Yan Deep Dynamic Network Embedding for Link Prediction. IEEE Access. 2018.
- [110] Qianyi Zhan, **Jiawei Zhang** and Philip S. Yu. Integrated Anchor and Social Link Predictions across Multiple Social Networks. KAIS. 2018.
- [111] Pengyang Wang, Yanjie Fu, **Jiawei Zhang**, Xiaolin Li and Dan Lin. Learning Urban Community Structures: A Collective Embedding Perspective with Periodic Spatial-temporal Mobility Graphs. TIST. 2018.
- [112] Chuan Shi, Yitong Li, **Jiawei Zhang** and Yizhou Sun, Philip S. Yu. A Survey of Heterogeneous Information Network Analysis. TKDE. 2017.
- [113] Qianyi Zhan, **Jiawei Zhang**, Philip S. Yu and Junyuan Xie. Community Detection for Emerging Social Networks. WWW Journal. 2017.

- [114] Qianyi Zhan, **Jiawei Zhang**, Philip S. Yu, Sherry Emery and Junyuan Xie. Inferring Social Influence of Anti-Tobacco Mass Media Campaigns. NanoBioscience. 2017.
- [115] Weiwei Shi, Yongxin Zhu, Philip S. Yu, **Jiawei Zhang**, Tian Huang, Chang Wang, and Yufeng Chen. Effective Prediction of Missing Data on Apache Spark over Multivariable Time Series. TBD. 2017.
- [116] Junxing Zhu, **Jiawei Zhang**, Quanyuan Wu, Bin Zhou, Xiaokai Wei and Philip S. Yu. Constrained Active Learning for Anchor Link Prediction across Heterogeneous Social Networks. Sensors. 2017.
- [117] **Jiawei Zhang**, Songchang Jin and Philip S. Yu. Mutual Community Detection across Multiple Partially Aligned Social Networks. STBD. 2017.
- [118] **Jiawei Zhang**, Qianyi Zhan and Philip S. Yu. Concurrent Alignment of Multiple Anonymized Social Networks with Generic Stable Matching. AISC. 2016.
- [119] Junxing Zhu, **Jiawei Zhang**, Chenwei Zhang, Quanyuan Wu, Yan Jia, Bin Zhou and Philip S. Yu CHRS: Cold Start Recommendation across Multiple Heterogeneous Information Networks. IEEE Access. 2015.

Invited Talks

- Feb. 2021 Deep Learning on Graphs: Graph Neural Network Research and Applications, University of California, Davis
- Feb. 2019 Broad Learning through Fusions, University of Pittsburgh
- Jan. 2019 Broad Learning through Fusions, Worcester Polytechnic Institute
- Dec. 2018 Broad Learning through Fusions, Fudan University
- Dec. 2018 Broad Learning through Fusions, Beijing University of Posts and Telecommunications
- Nov. 2017 An Introduce to Network Embedding Methods, Florida State University
- Oct. 2017 Social Network Mining: An Introduction, Florida State University
- April 2017 Fusion of Heterogeneous Social Networks for Synergistic Knowledge Discovery, Florida State University
- March 2017 Fusion of Heterogeneous Social Networks for Synergistic Knowledge Discovery, University of Louisiana at Lafayette
- March 2017 Fusion of Heterogeneous Social Networks for Synergistic Knowledge Discovery, Indiana University Purdue University Indianapolis
- Feb. 2017 Fusion of Heterogeneous Social Networks for Synergistic Knowledge Discovery, Indiana University Bloomington
- Feb. 2017 Fusion of Heterogeneous Social Networks for Synergistic Knowledge Discovery, Rensselaer Polytechnic Institute
- Feb. 2017 Fusion of Heterogeneous Social Networks for Synergistic Knowledge Discovery, University Alabama at Birmingham
- Feb. 2017 Fusion of Heterogeneous Social Networks for Synergistic Knowledge Discovery, New Jersey Institute of Technology

- Feb. 2017 Fusion of Heterogeneous Social Networks for Synergistic Knowledge Discovery, Temple University
- Aug. 2016 Link Prediction with Cardinality Constraint, Yahoo! Research
- May 2016 Fusion of Heterogeneous Social Networks for Synergistic Knowledge Discovery
- Aug. 2014 Enterprise Social Network Analysis and Social Link Recommendation, Microsoft Research

Professional Services

Funding Review Panelist

- Swiss National Science Foundation Panel August 2019.
- US National Science Foundation, IIS Medium Panel April 2019.

Transaction Information Director and Specialist

- ACM Transactions on Knowledge Discovery from Data (TKDD) August 2014 to September 2017.

Conference Session Chair

- IEEE/ACM International Conference on Advances in Social Networks Analysis and Mining, Session 7C: Adversarial/Trust 2, *ASONAM 2016*

Senior Program Committee

- AAAI Conference on Artificial Intelligence (AAAI): 2021

Program Committee

- SIGKDD Conference of Knowledge Discovery and Data Mining (*KDD*): 2018, 2019, 2020, 2021
- SIGIR Conference on Research and Development in Information Retrieval (*SIGIR*): 2020, 2021
- International World Wide Web Conference (*WWW*): 2017, 2018, 2019, 2020
- AAAI Conference on Artificial Intelligence (AAAI): 2019, 2020
- International Joint Conference on Artificial Intelligence (*IJCAI*): 2018, 2019
- International Conference on Data Mining (*ICDM*): 2017, 2018, 2019, 2020, 2021
- International Conference on Information and Knowledge Management (*CIKM*): 2015, 2016, 2017, 2018, 2019, 2021
- International Conference on Web Search and Data Mining (*WSDM*): 2021
- SIAM Data Mining Conference (*SDM*): 2018, 2019, 2020, 2021

Journal Reviewer

- IEEE Transactions on Knowledge and Data Engineering *TKDE* 2014, 2017, 2019
- ACM Transactions on Knowledge Discovery from Data *TKDD* 2013, 2015, 2016