# Jiawei Zhang

*Curriculum Vitae*

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## 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

2017–Present **Assistant Professor**.
Department of Computer Science, Florida State University

2017–Present **Founder and Director**.
Information Fusion and Mining Laboratory

○ 5 PhD Student Members

## Education

2012–2017 **Ph.D. in Computer Science**.
University of Illinois at Chicago, Chicago, IL, USA

○ *Thesis*: Fusion of Heterogeneous Information 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

| | | |
|---|---|---|
| 2018 | First Year Assistant Professor Award | *Florida State University* |
| 2018 | Best Student Paper Runner Up Award | *ACM SIGKDD* |
| 2016 | Best Student Paper Runner Up Award | *IEEE/ACM ASONAM* |
| 2016 | SIGIR Student Travel Award | *ACM CIKM* |
| 2016 | IEEE Student Travel Award | *IEEE CIC* |
| 2015 | SIGKDD Student Travel Award | *ACM SIGKDD* |
| 2015 | ICDM Student Travel Award | *IEEE ICDM* |
| 2014 | WSDM Student Travel Award | *ACM WSDM* |
| 2014 | Student Travel Award | *University of Illinois at Chicago* |

## Grant Proposal Writing

### 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)

July 2019 **CAREER: Graph Neural Networks for Multi-Perspective Representation Learning**.
- Sole PI, NSF CAREER
- Personal Share/Total Budget: $600K/$600K

Sept. 2019 **III: Medium: Collaborative Research: Data Adaptive Recommender System Learning via Multi-Modal Heterogeneous Information Fusion**.
- PI, NSF Division of Information & Intelligent Systems
- Personal Share: $600K/$1.2M

Nov. 2019 **III: Small: Isomorphic Neural Network for Brain Graph Representation Learning and Classification**.
- Sole PI, NSF Division of Information & Intelligent Systems
- Personal Share: $500K/$500K

## Course Teaching

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
Student Evaluation Score: 4.55/5.0

2018 Fall **COP 4710-0001 Databases**.
Department of Computer Science
Florida State University
Student Evaluation Score: 4.29/5.0

2018 Spring **CIS 5930-0004: Social Network Mining**.
Department of Computer Science
Florida State University
Student Evaluation Score: 4.55/5.0

## Student Mentoring

### Mentored Students

2019–Present **Yixin Chen**.
- Current: PhD Student@Florida State University
- Research Topic: Statistical Regression
- Collaborated Papers:

2019–Present **Haopeng Zhang**.
- Current: PhD Student@Florida State University
- Research Topic: Text Mining
- Collaborated Papers: [M7], [M21]

2018–Present **Jiyang Bai**.
- Current: PhD Student@Florida State University
- Research Topic: Optimization
- Collaborated Papers: [C12], [M4], [M5], [M6]

2018–Present **Lin Meng**.
- Current: PhD Student@Florida State University
- Research Topic: Graph Mining
- Collaborated Papers: [C4], [C11], [C12], [M1], [M2], [M3], [M17], [M12], [M20]

2018–Present **Yuxiang Ren**.
- Current: PhD Student@Florida State University
- Research Topic: Text Mining and Graph Mining
- Collaborated Papers: [C5], [J1], [C3], [C11], [M4], [M5], [M8], [M9], [M10], [M11], [M12]

2019–2019 **Haoran Yang**.
- Current: BS Student@Nanjing University
- Research Topic: Recommender Systems
- Collaborated Papers: [M2]

2017–2017 **Conying Xia**.
- Current: PhD Candidate@University of Illinois at Chicago
- Research Topic: Network Embedding
- Collaborated Papers: [C27], [M16]

2016–2017 **Ye Liu**.
- Current: PhD Candidate@University of Illinois at Chicago
- Research Topic: Multiple Aligned Movie Library Analysis
- Collaborated Papers: [C22]

2016–2017 **Chenwei Zhang**.
- Current: Applied Scientist@Amazon
- Research Topic: Deep Learning Application in Data Mining
- Collaborated Papers: [M7], [M21], [C10], [C27], [J17]

2015–2016 **Junxing Zhu**.
- Current: Assistant Professor@National University of Defense Technology
- Research Topic: User Resolution and Alignment across Networks
- Collaborated Papers: [C25], [J14], [C28], [J17]

2014–2016 **Qianyi Zhan**.
- Current: Assistant Professor@Jiangnan University
- Research Topic: Information Diffusion and Viral Marketing
- Collaborated Papers: [C37], [C38], [C42], [C44], [C55], [C40], [J16], [J8], [J11], [J12]

## PhD Thesis Committee

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 Prelimnary Talk: Structured Knowledge Discovery from Massive Text Corpus. |
| October 2018 | **Lei Zheng**. |
| | ○ Current: PhD Candidate@University of Illinois at Chicago |
| | ○ PhD Prelimnary 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

| Books | 1 first-author textbook, 3 book chapters |
| Published | 61 conference papers, 17 journal articles |
| Tutorials | 7 tutorial articles, 3 survey papers |
| Submitted | 23 manuscripts |
| Academic Impact | No. citations: 1,943, h-index: 20 (By February 16, 2020) (Source: https://scholar.google.com/citations?user=7AkZSJsAAAAJ&hl=en) |

## Books

[BOOK1] **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

[BC1] **Jiawei Zhang** and Philip S. Yu. Broad Learning based Social Community Detection. Springer.

[BC2] **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.

[BC3] **Jiawei Zhang** and Philip S. Yu. Chapter: Cross-Platform Social Network Analysis. Encyclopedia of Social Network Analysis and Mining 2nd Edition, 2016.

## Survey Papers

[R1] **Jiawei Zhang**. Social Network Fusion and Mining: A Survey. May 2018.

[R2] **Jiawei Zhang**. Link Prediction across Heterogeneous Social Networks: A Survey.

[R3] Philip S. Yu, **Jiawei Zhang**. On Mining Big Data and Social Network Analysis. July 2014.

## Tutorial Articles

[T1] **Jiawei Zhang**. IFM Lab Tutorial Series # 1: Gradient Descent based Optimization Algorithms for Deep Learning Models Training. First Version: February 2019.

[T2] **Jiawei Zhang**. IFM Lab Tutorial Series # 2: Derivative-Free Global Optimization Algorithms: Bayesian Method and Lipschitzian Approaches. First Version: March 2019.

[T3] **Jiawei Zhang**. IFM Lab Tutorial Series # 3: Derivative-Free Global Optimization Algorithms: Population based Methods and Random Search Approaches. First Version: March 2019.

[T4] **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.

[T5] **Jiawei Zhang**. IFM Lab Tutorial Series # 5: Basic Neural Units of the Brain: Neurons, Synapses and Action Potential. First Version: May 2019.

[T6] **Jiawei Zhang**. IFM Lab Tutorial Series # 6: Cognitive Functions of the Brain: Perception, Attention and Memory. First Version: May 2019.

[T7] **Jiawei Zhang**. IFM Lab Tutorial Series # 7: Graph Neural Networks for Small Graph and Giant Network Representation Learning: An Overview. First Version: July 2019.

## Conference and Workshop Papers (* My PhD Students)

[C1] **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.

[C2] 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.

[C3] 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*).

[C4] 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.

[C5] 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.

[C6] 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.

[C7] 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.

[C8] 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.

[C9] 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.

[C10] 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.

[C11] 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.

[C12] 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.

[C13] **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.

[C14] 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.

[C15] 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.

[C16] 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.

[C17] 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.

[C18] 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.

[C19] 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.

[C20] 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.

[C21] 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.

[C22] 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*).

[C23] **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.

[C24] **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.

[C25] **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.

[C26] **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.

[C27] **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.

[C28] 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.

[C29] **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.

[C30] **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.

[C31] 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.

[C32] 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.

[C33] **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.

[C34] **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.

[C35] 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.

[C36] **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.

[C37] **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.

[C38] **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.

[C39] 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.

[C40] 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.

[C41] **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**)

[C42] **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.

[C43] 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.

[C44] 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)

[C45] Weixiang Shao, **Jiawei Zhang**, Lifang He and Philip S. Yu. Multi-Source Multi-View Clustering via Discrepancy Penalty. In: Proceedings of the International Joint Conference on Neural Networks (*IJCNN '16*), Vancouver, Canada, July 24-29, 2016.

[C46] **Jiawei Zhang** and Philip S. Yu. Trip Route Planning for Bicycle-Sharing Systems. In: Proceedings of the 2nd IEEE International Conference on Collaboration and Internet Computing (*IEEE CIC '16*), Pittsburgh, PA, USA, November 1-3, 2016.

[C47] **Jiawei Zhang**, Xiao Pan, Moyin Li and Philip S. Yu. Bicycle-Sharing System Analysis and Trip Prediction. In: Proceedings of the 17th International Conference on Mobile Data Management (*MDM '16*), Porto, Portugal, June 13-16, 2016.

[C48] **Jiawei Zhang**, Philip S. Yu and Yuanhua Lv. Organizational Chart Inference. In: Proceedings of the 21st ACM SIGKDD Conference on Knowledge Discovery and Data Mining (*KDD '15*), Sydney, Australia, August 10-13, 2015.

[C49] **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.

[C50] **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.

[C51] **Jiawei Zhang**, Yuanhua Lv and Philip S. Yu. Enterprise Social Link Recommendation. In: Proceedings of the 24th ACM International Conference on Information and Knowledge Management (*CIKM '15*), Melbourne, Australia, October 19-23, 2015.

[C52] **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.

[C53] **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)

[C54] **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)

[C55] 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.

[C56] 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.

[C57] **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.

[C58] **Jiawei Zhang**, Xiangnan Kong and Philip S. Yu. Transferring Heterogeneous Links across Location-Based Social Networks. In: Proceedings of the 7th International ACM Conference on Web Search and Data Mining (*WSDM '14*), New York City, NY, February 24–28, 2014.

[C59] Songchang Jin, **Jiawei Zhang**, Philip S. Yu, Shuqiang Yang and Aiping Li. Synergistic Partitioning in Multiple Large Scale Social Networks. In: Proceedings of the 2014 IEEE International Conference on Big Data (*IEEE BigData '14*), Washington, DC, October 27-30, 2014.

[C60] **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.

[C61] 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)

[J1] Yuxiang Ren*, Charu C. Aggarwal and **Jiawei Zhang** and Philip S. Yu. ActiveIter: Meta Diagram based Active Learning in Social Networks Alignment. TKDE. 2019.

[J2] 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.

[J3] Sina Sajadmanesh, Sogol Bazargani, **Jiawei Zhang** and Hamid R. Rabiee. Continuous-Time Relationship Prediction in Dynamic Heterogeneous Information Networks. TKDD. 2019.

[J4] Xiao Pan, Ma Ang, **Jiawei Zhang** and Lei Wu. Approximate Similarity Measurements on Multi-Attributes Trajectories Data. IEEE Access. 2019.

[J5] Limeng Cui, **Jiawei Zhang**, Lifang He and Philip S. Yu. Multi-view collective tensor decomposition for cross-modal hashing. IJMIR. 2019.

[J6] **Jiawei Zhang** and Philip S. Yu. Broad Learning: An Emerging Area in Social Network Analysis. SIGKDD Explorations. 2018.

[J7] Taisong Li, **Jiawei Zhang**, Philip Yu, Yan Zhang and Yonghong Yan Deep Dynamic Network Embedding for Link Prediction. IEEE Access. 2018.

[J8] Qianyi Zhan, **Jiawei Zhang** and Philip S. Yu. Integrated Anchor and Social Link Predictions across Multiple Social Networks. KAIS. 2018.

[J9] 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.

[J10] Chuan Shi, Yitong Li, **Jiawei Zhang** and Yizhou Sun, Philip S. Yu. A Survey of Heterogeneous Information Network Analysis. TKDE. 2017.

[J11] Qianyi Zhan, **Jiawei Zhang**, Philip S. Yu and Junyuan Xie. Community Detection for Emerging Social Networks. WWW Journal. 2017.

[J12] Qianyi Zhan, **Jiawei Zhang**, Philip S. Yu, Sherry Emery and Junyuan Xie. Inferring Social Influence of Anti-Tobacco Mass Media Campaigns. NanoBioscience. 2017.

[J13] 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.

[J14] 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.

[J15] **Jiawei Zhang**, Songchang Jin and Philip S. Yu. Mutual Community Detection across Multiple Partially Aligned Social Networks. STBD. 2017.

[J16] **Jiawei Zhang**, Qianyi Zhan and Philip S. Yu. Concurrent Alignment of Multiple Anonymized Social Networks with Generic Stable Matching. AISC. 2016.

[J17] 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.

### Submitted Manuscripts (* My PhD Students)

[M1] Lin Meng* and **Jiawei Zhang**. Recurrent Graph Isomorphic Neural Network with Regional Attention for Brain Graph Classification. Submitted to the 29th International Joint Conference on Artificial Intelligence (*IJCAI '20*).

[M2] Lin Meng*, Haoran Yang and **Jiawei Zhang**. Semi-supervised Attention based Dynamic Recommendation with Life Cycles. Submitted to the 43rd International ACM SIGIR Conference on Research and Development in Information Retrieval (*SIGIR '20*).

[M3] Lin Meng* and **Jiawei Zhang**. IsoNN: Isomorphic Neural Network for Graph Representation Learning and Classification. Submitted to the 26th SIGKDD Conference on Knowledge Discovery and Data Mining (*KDD '20*).

[M4] Jiyang Bai*, Yuxiang Ren* and **Jiawei Zhang**. DEAM: Accumulated Momentum with Discriminative Weight for Stochastic Optimization. Submitted to the 29th International Joint Conference on Artificial Intelligence (*IJCAI '20*).

[M5] Jiyang Bai*, Yuxiang Ren* and **Jiawei Zhang**. Ripple Walk Training: A Subgraph-based training framework for Large and Deep Graph Neural Networks. Submitted to the 29th International Joint Conference on Artificial Intelligence (*IJCAI '20*).

[M6] Jiyang Bai* and **Jiawei Zhang**. BGADAM: Boosting based Genetic-Evolutionary ADAM for Deep Convolutional Neural Network Optimization. Submitted to the 24th European Conference on Artificial Intelligence (*ECAI '19*).

[M7] Haopeng Zhang* and **Jiawei Zhang**. Code Completion with Structure Augmented Transformer. Submitted to the 29th International Joint Conference on Artificial Intelligence (*IJCAI '20*).

[M8] Yuxiang Ren*, Bo Liu, Chao Huang, Peng Dai, Liefeng Bo and **Jiawei Zhang**. Heterogeneous Deep Graph Infomax. Submitted to the 29th International Joint Conference on Artificial Intelligence (*IJCAI '20*).

[M9] Yuxiang Ren* and **Jiawei Zhang**. HGAT: Hierarchical Graph Attention Network for Fake News Detetion. Submitted to the 29th International Joint Conference on Artificial Intelligence (*IJCAI '20*).

[M10] Yuxiang Ren*, Bo Wang, **Jiawei Zhang** and Yi Chang. Adversarial Active Learning based Heterogeneous Graph Neural Network for Fake News Detection. Submitted to the 26th SIGKDD Conference on Knowledge Discovery and Data Mining (*KDD '20*).

[M11] Yuxiang Ren*, Hao Zhu and **Jiawei Zhang**. EnsemFDet: An Ensemble Approach to Fraud Detection based on Bipartite Graph. Submitted to IEEE Transactions on Knowledge and Data Engineering (*TKDE*).

[M12] Yuxiang Ren*, Lin Meng* and **Jiawei Zhang**. Scalable Heterogeneous Social Network Alignment through Synergistic Graph Partition. Submitted to IEEE Transactions on Knowledge and Data Engineering (*TKDE*).

[M13] Zhiwei Yang, Hechang Chen, **Jiawei Zhang**, Jing Ma and Yi Chang. Attention-based Multi-level Feature Fusion for Named Entity Recognition. Submitted to the 29th International Joint Conference on Artificial Intelligence (*IJCAI '20*).

[M14] Fuxin Ren, Zhongbao Zhang, **Jiawei Zhang**, Sen Su, Li Sun, Guozhen Zhu and Congying Guo. BANANA: when Behavior ANAlysis meets social Network Alignment. Submitted to the 29th International Joint Conference on Artificial Intelligence (*IJCAI '20*).

[M15] Li Sun, Zhongbao Zhang, **Jiawei Zhang**, Feiyang Wang, Yang Du, Sen Su and Philip S. Yu. PERFECT: A Hyperbolic Embedding for Joint User and Community Alignment. Submitted to the 26th SIGKDD Conference on Knowledge Discovery and Data Mining (*KDD '20*).

[M16] Congying Xia, Chenwei Zhang, Hoang Nguyen, **Jiawei Zhang** and Philip Yu. CG-BERT: Conditional Text Generation with BERT for Generalized Few-shot Intent Detection. Submitted to the 58th Annual Meeting of the Association for Computational Linguistics (*ACL '20*).

[M17] Zhiwei Liu, Lin Meng*, **Jiawei Zhang** and Philip S. Yu. De-oscillation of Graph Convolutional Network on Bipartite Graph. Submitted to the 29th International Joint Conference on Artificial Intelligence (*IJCAI '20*).

[M18] **Jiawei Zhang**. Get Rid of Suspended Animation Problem: Deep Diffusive Neural Network on Graph Semi-Supervised Classification. Submitted to the 29th International Joint Conference on Artificial Intelligence (*IJCAI '20*).

[M19] **Jiawei Zhang** and Haopeng Zhang*. GRAPH-BERT: Only Attention is Needed for Learning Graph Representations. Submitted to the 29th International Joint Conference on Artificial Intelligence (*IJCAI '20*).

[M20] **Jiawei Zhang** and Lin Meng*. GResNet: Graph Residual Network for Reviving Deep GNNs from Suspended Animation. Submitted to the Thirty-seventh International Conference on Machine Learning (*ICML '20*).

[M21] **Jiawei Zhang**. Segmented GRAPH-BERT for Graph Instance Modeling. Submitted to the Thirty-seventh International Conference on Machine Learning (*ICML '20*).

[M22] **Jiawei Zhang**. Graph Neural Distance Metric Learning with GRAPH-BERT. Submitted to the Thirty-seventh International Conference on Machine Learning (*ICML '20*).

[M23] **Jiawei Zhang**. G5: A Universal Graph-Bert for Graph-to-Graph Transfer. Submitted to the 26th SIGKDD Conference on Knowledge Discovery and Data Mining (*KDD '20*).

## Invited Talks

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|---|---|
| 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 Panel

- 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*

## Conference Program Committee

- SIGKDD Conference of Knowledge Discovery and Data Mining, *KDD 2020*

- SIGIR Conference on Research and Development in Information Retrieval, *SIGIR 2020*

- SIAM Data Mining Conference, *SDM 2020*

- International World Wide Web Conference, *WWW 2020*

- AAAI Conference on Artificial Intelligence, *AAAI 2020*

- International Conference on Information and Knowledge Management, *CIKM 2019*

- International Conference on Data Mining, *ICDM 2019*

- International Joint Conference on Artificial Intelligence, *IJCAI 2019*

- SIGKDD Conference of Knowledge Discovery and Data Mining, *KDD 2019*

- International World Wide Web Conference, *WWW 2019*

- SIAM Data Mining Conference, *SDM 2019*

- AAAI Conference on Artificial Intelligence, *AAAI 2019*

- SIGKDD Conference of Knowledge Discovery and Data Mining, *KDD 2018*

- International Conference on Information and Knowledge Management, *CIKM 2018*

- International Conference on Data Mining, *ICDM 2018*

- International Joint Conference on Artificial Intelligence, *IJCAI-ECAI 2018*

- International World Wide Web Conference, *WWW 2018* (Poster Track)

- SIAM Data Mining Conference, *SDM 2018*

- Workshop on Big Traffic Data Analytics, *BigTraffic 2018*

- ACM International Conference on Information and Knowledge Management, *CIKM 2017*

- Asia Information Retrieval Societies Conferenc, *AIRS 2017*

- International Conference on Data Mining, *ICDM 2017*

- International World Wide Web Conference, *WWW 2017*

- ACM International Conference on Information and Knowledge Management, *CIKM 2016*

- Asia Information Retrieval Societies Conferenc, *AIRS 2016*

○ ACM International Conference on Information and Knowledge Management, *CIKM 2015*

## Journal Reviewer

○ IEEE Transactions on Knowledge and Data Engineering, *TKDE 2019*

○ IEEE Transactions on Big Data, *TBD 2019*

○ IEEE Access Journal, *ACCESS 2018*

○ Information System Journal, *IS 2018*

○ IEEE Transactions on Knowledge and Data Engineering, *TKDE 2017*

○ ACM Transactions on Knowledge Discovery from Data, *TKDD 2016*

○ ACM Transactions on Knowledge Discovery from Data, *TKDD 2015*

○ IEEE Transactions on Knowledge and Data Engineering, *TKDE 2014*

○ ACM Transactions on Knowledge Discovery from Data, *TKDD 2013*