

Tyler Derr

CONTACT INFORMATION	Office: 364 Featheringill-Jacobs Hall 400 24th Ave S Nashville, TN 37212	Personal Homepage: http://www.TylerDerr.com NDS Lab Homepage: http://my.vanderbilt.edu/NDS LinkedIn: http://www.linkedin.com/in/TylersNetwork Twitter: http://www.twitter.com/TylersNetwork Google Scholar: https://scholar.google.com/citations?user=et6lhFcAAAAJ
	E-mail: Tyler.Derr@vanderbilt.edu	
POSITIONS	Assistant Professor , Vanderbilt University Computer Science in the Department of CS (Previously EECS and separated into ECE and CS in July 2021)	Aug 2020 – Present
	Teaching & Affiliate Faculty Member , Vanderbilt University Data Science Institute (DSI)	Aug 2020 – Present
	Faculty Fellow , Vanderbilt University Frist Center for Autism and Innovation	Aug 2020 – Present
EDUCATION	Michigan State University	
	Doctor of Philosophy (Ph.D.) in Computer Science • Dissertation: Network Analysis with Negative Links • Advisor: Dr. Jiliang Tang • Research areas: Signed Network Analysis, Deep Learning on Graphs, Data Science for Social Good • Cumulative GPA: 4.00 / 4.00	Aug 2020
	The Pennsylvania State University	
	Master of Science (M.S.) in Computer Science • Thesis: A Clustering Approach to the Bounded Diameter Minimum Spanning Tree Problem Using Ants • Advisor: Dr. Thang N. Bui • Research areas: Ant Systems, Evolutionary Computation, Graph Algorithms • Cumulative GPA: 3.97 / 4.0	May 2015
	Dual Bachelor of Science (B.S.) in Computer Science and Mathematical Sciences • Cumulative GPA: 3.35 / 4.00	May 2013
RESEARCH EXPERIENCE	Network and Data Science Lab , Vanderbilt University Director • Research Interests: data mining, network analysis, social computing, graph neural networks, graph mining, machine learning, network measures and models, data science for social good (e.g., education, health, political science, and autism research)	Aug 2020 – Present
	Teachers in Social Media , Michigan State University PhD Student, Computer Science and Engineering Department • Projects: Incorporating Online Social Media in Educational Research • Principal Investigator: Dr. Kaitlin Torphy	Feb 2019 – Aug 2020
	Data Science and Engineering Lab , Michigan State University PhD Student, Computer Science and Engineering Department • Projects: Signed Network Analysis, Deep Learning on Graphs, Data Science for Social Good • Advisor: Dr. Jiliang Tang	Jan 2017 – Aug 2020
	Center for Computational Network Intelligence , HRL Laboratories Research Scientist Intern/Contractor • Projects: (Related to my general research interests, but can not disclose.) • Principal Investigator: Dr. Jiejun Xu	May 2019 – Jul 2020
	BEACON An NSF Center for the Study of Evolution in Action , Michigan State University PhD Student, Computer Science and Engineering Department • Projects: Evolving Multi-Layer Markov Network Brains Using Adaptive Complexification • Advisor: Dr. William F. Punch • Research areas: Evolving A.I., Evolutionary Reinforcement Learning, Genetic Programming	Aug 2015 – Dec 2016

Yue Lab, The Pennsylvania State University College of Medicine

Research Assistant, Institute for Personalized Medicine

Jun 2014 – Aug 2015

- Projects: Prediction and Analysis of Chromatin Spatial Organization in Cells
- Principal Investigator: Dr. Feng Yue
- Research areas: Machine Learning & Computational Genomics/Epigenomics

Dr. Thang N. Bui's Lab, Penn State Harrisburg

Master's Student, Computer Science & Mathematical Sciences Department

May 2014 – Aug 2015

- Projects: Ant-Based Optimization for Bounded Diameter Minimum Spanning Tree Problem
- Advisor: Dr. Thang N. Bui
- Research areas: Ant Systems, Evolutionary Computation, Graph Algorithms

PUBLICATIONS

Yu Wang and Tyler Derr. Tree Decomposed Graph Neural Network. In Proceedings of the 30th ACM International Conference on Information and Knowledge Management (CIKM), 2021.

Tyler Derr, Hamid Karimi, Xiaorui Liu, Jiejun Xu, and Jiliang Tang. Deep Adversarial Network Alignment. In Proceedings of the 30th ACM International Conference on Information and Knowledge Management (CIKM), 2021.

Wei Jin, Xiaorui Liu, Yao Ma, Tyler Derr, Charu Aggarwal and Jiliang Tang. Graph Feature Gating Network. In Proceedings of the 30th ACM International Conference on Information and Knowledge Management (CIKM), 2021.

Aaron Brookhouse, Tyler Derr (co-first author), Hamid Karimi (co-first author), H. Russell Bernard, and Jiliang Tang. Analyzing the Relations Between Mainstream and Social Media During the US Presidential Primaries. In Proceedings of the 32nd ACM Conference on Hypertext and Social Media, 2021.

Xuejiao Tang, Wenbin Zhang, Yi Yu, Kea Turner, Tyler Derr, Mengyu Wang, Eirini Ntoutsi. Interpretable Visual Understanding with Cognitive Attention Network. In Proceedings of the 30th International Conference on Artificial Neural Networks (ICANN), 2021.

Yao Ma, Suhang Wang, Tyler Derr, Lingfei Wu, and Jiliang Tang. Graph Adversarial Attack via Rewiring. In Proceedings of the 27th ACM SIGKDD International Conference on Knowledge Discovery & Data Mining (KDD), 2021.

Ramit Sawhney, Shivam Agarwal, Arnav Wadhwa, Tyler Derr, Rajiv Shah. Stock Selection via Spatiotemporal Hypergraph Attention Network: A Learning to Rank Approach. In Proceedings of the 35th AAAI Conference on Artificial Intelligence (AAAI), 2021.

Wei Jin, Tyler Derr, Yiqi Wang, Yao Ma, Zitao Liu, and Jiliang Tang. Node Similarity Preserving Graph Convolutional Networks. In Proceedings of the 14th ACM International Conference on Web Search and Data Mining (WSDM), 2021.

Wenqi Fan, Tyler Derr, Xiangyu Zhao, Yao Ma, Hui Liu, Jianping Wang, Jiliang Tang, Qing Li. CopyAttack: Attacking Black-box Recommendations via Copying Cross-domain User Profiles. In Proceedings of the IEEE 37th International Conference on Data Engineering (ICDE), 2021.

Hamid Karimi, Kaitlin T. Torphy, Tyler Derr, Kenneth A. Frank, and Jiliang Tang. Understanding and Promoting Teacher Connections in Online Social Media: A Case Study on Pinterest. IEEE International Conference on Teaching, Assessment, and Learning for Engineering (TALE), 2020.

Yu Rong, Tingyang Xu, Junzhou Huang, Wenbing Huang, Hong Cheng, Yao Ma, Yiqi Wang, Tyler Derr, Lingfei Wu, Tengfei Ma. Deep Graph Learning: Foundations, Advances and Applications. In Proceedings of the 26th ACM SIGKDD International Conference on Knowledge Discovery & Data Mining (KDD), 2020.

Wentao Wang, Tyler Derr, Yao Ma, Suhang Wang, Hui Liu, Zitao Liu, and Jiliang Tang. Learning from Incomplete Labeled Data via Adversarial Data Generation. International Conference on Data Mining (ICDM), 2020.

Tyler Derr, Hamid Karimi (co-first author), Jiangtao Huang, and Jiliang Tang. Online Academic Course Performance Prediction using Relational Graph Convolutional Neural Network. International Educational Data Mining Society (EDM), 2020.

Hamid Karimi, Kaitlin Torphy, Tyler Derr, Kenneth Frank and Jiliang Tang. Characterizing Teacher Connections in Online Social Media: A Case Study on Pinterest. (WIP) In Proceedings of the 7th Learning@ Scale (L@S), 2020.

Tyler Derr, Yao Ma, Wenqi Fan, Xiaorui Liu, Charu Aggarwal, and Jiliang Tang. Epidemic Graph Convolutional Network. In Proceedings of the 13th ACM International Conference on Web Search and Data Mining (WSDM), 2020.

Tyler Derr. Network Analysis with Negative Links. In Proceedings of the 13th ACM International Conference on Web Search and Data Mining (WSDM), 2020.

Hamid Karimi, Tyler Derr, Kaitlin T. Torphy, Kenneth A. Frank, and Jiliang Tang. Towards Improving Sample Representativeness of Teachers on Online Social Media: A Case Study on Pinterest. In Proceedings of the 21st International Conference on Artificial Intelligence in Education (AIED), 2020.

Amin Javari, Tyler Derr, Pouya Esmalian, Jiliang Tang, Kevin Chen-Chuan Chang. ROSE: Role-based Signed Network Embedding. The World Wide Web Conference, 2020.

Tyler Derr, Zhiwei Wang, Jamell Dacon, and Jiliang Tang. Link and Interaction Polarity Predictions in Signed Networks. Social Network Analysis and Mining (SNAM), 2020.

Tyler Derr, Cassidy Johnson, Yi Chang, and Jiliang Tang. Balance in Signed Bipartite Networks. In Proceedings of the 28th ACM International Conference on Information and Knowledge Management (CIKM), 2019.

Tyler Derr, Hamid Karimi (co-first author), Aaron Brookhouse, and Jiliang Tang. Multi-Factor Congressional Vote Prediction. In Proceedings of the 2019 IEEE/ACM International Conference on Advances in Social Networks Analysis and Mining (ASONAM), 2019.

Wenqi Fan, Tyler Derr, Yao Ma, Qing Li, Jiliang Tang, and Jianping Wang. Deep Adversarial Social Recommendation. In Proceedings of the 28th International Joint Conference on Artificial Intelligence (IJCAI), 2019.

Hamid Karimi, Tyler Derr, Kaitlin Torphy, Ken Frank, and Jiliang Tang. A Roadmap for Incorporating Online Social Media in Educational Research. Teachers College Record, 2019.

Tyler Derr, Yao Ma, and Jiliang Tang. Signed Graph Convolutional Networks. In Proceedings of the 18th International Conference on Data Mining (ICDM), 2018.

Tyler Derr and Jiliang Tang. Congressional Vote Analysis using Signed Networks. In Proceedings of the 18th International Conference on Data Mining Workshops (ICDMW), 2018.

Tyler Derr, Charu Aggarwal, and Jiliang Tang. Signed Network Modeling Based on Structural Balance Theory. In Proceedings of the 27th ACM International Conference on Information and Knowledge Management (CIKM), 2018.

Tyler Derr, Zhiwei Wang, and Jiliang Tang. Opinions Power Opinions: Joint Link and Interaction Polarity Predictions in Signed Networks. In Proceedings of the IEEE/ACM International Conference on Advances in Social Networks Analysis and Mining (ASONAM), 2018.

Tyler Derr, Chenxing Wang, Suhang Wang, and Jiliang Tang. Relevance Measurements in Online Signed Social Networks. In ACM SIGKDD 14th International Workshop on Mining and Learning with Graphs (MLG), 2018.

Zhiwei Wang, Tyler Derr, Dawei Yin, and Jiliang Tang. Understanding and Predicting Weight Loss with Mobile Social Networking Data. In Proceedings of the 26th ACM International Conference on Information and Knowledge Management (CIKM), 2017.

Preprints and Submissions

Yu Wang, Wei Jin, and Tyler Derr. Graph Neural Networks: Self-supervised Learning. 2021.

Wei Jin, Tyler Derr, Haochen Liu, Yiqi Wang, Suhang Wang, Zitao Liu, and Jiliang Tang. Self-supervised Learning on Graphs: Deep Insights and New Directions. arXiv 2020.

Jamell Dacon, Tyler Derr, and Jiliang Tang. Cross-Domain Recommender System: A Survey on Online Platforms and New Perspectives.

Hamid Karimi, Tyler Derr, Jiliang Tang. Explaining the Behavior of Deep Neural Networks Through the Lens of Decision Boundary.

Haochen Liu, Zhiwei Wang, Tyler Derr, Zitao Liu, and Jiliang Tang. Chat as Expected: Manipulating Black-box Neural Dialogue Models. arXiv 2020.

Jiangtao Huang, Tyler Derr, Hamid Karimi, and Jiliang Tang. A Survey of Computational Methods in Massive Open Online Courses.

Haochen Liu, Tyler Derr, Zitao Liu, and Jiliang Tang. Say What I Want: Towards the Dark Side of Neural Dialogue Models. arXiv 2019.

Hamid Karimi, Tyler Derr, and Jiliang Tang. Characterizing the Decision Boundary of Deep Neural Networks. arXiv 2019.

HONORS & AWARDS	• Best Reviewer Award at ICWSM'21.	2021
	• SIAM Early Career Travel Award for SDM'21 supported by NSF	2021
	• Fall 2020 Teaching Innovation Award from the School of Engineering at Vanderbilt	2021
	• Student Registration Award for KDD'20 from NSF and ACM SIGKDD. (Including partial registration for KDD'21)	2020
	• Student Travel Award for WSDM'20 from ACM SIGIR.	2020
	• MSU COGS Professional Development Award (with fellowship funding)	2019
	• MSU COGS Conference Award (with fellowship funding)	2019
	• Student Travel Award for CIKM'19 from ACM SIGIR.	2019
	• MSU Engineering Graduate Leadership Fellow	Aug 2019 – May 2020
	• MSU Education Opportunity Fellowship	Aug 2019 – May 2020
	• Best Reviewer Award at ICWSM'19.	Jun 2019
	• Best Student Poster Award at SDM'19. Title: Network Analysis with Negative Links	May 2019
	• Student Travel Award for SDM'19 from NSF.	2019
	• My advisor Dr. Jiliang Tang was awarded the NSF CAREER award based on my research.	2019
	• "People's Choice" Award for 3 Minute Thesis Competition at Michigan State	Feb 2019
	• Student Travel Award for ICDM'18.	2018
	• Student Travel Award for CIKM'18 from ACM SIGIR.	2018
	• 2nd Prize at the Southeast Michigan Postdoctoral Symposium University of Michigan Postdoctoral Association	Oct 2018
	• Department Fellowship, Michigan State University The Department of Computer Science and Engineering	Spring: 2018,2019, Summer: 2017,2018
	• Student Travel Award for KDD'17.	2017
	• Student Travel Award for SDM'17 from NSF.	2017
	• Graduate Student Chancellor's Award	Aug 2013 – May 2014
	• Robert W. Graham Fellowship	Aug 2013 – May 2014
	• Undergraduate Dean's List	Spring: 2010-2013 & Fall: 2012
	• Webclients.net Trustee Scholarship	Aug 2010 – May 2011 & Aug 2012 – May 2013
	• Schwab Trustee Scholarship	Aug 2008 – May 2009

**MENTORING
IN NDS LAB
(AS ADVISOR)**

Network and Data Science Lab, Vanderbilt University

Ph.D. Students

- Zhaoqing Li, Ph.D. Computer Science Officially Starting in Spring 2022
Research topic: Graph mining and representation learning
Awarded Vanderbilt Dean's Graduate Fellowship Award
- Yuying Zhao, Ph.D. Computer Science Fall 2021 – Present
Research topic: Graph mining and representation learning
Awarded Vanderbilt IBM Fellowship Award
- Yu Wang, Ph.D. Computer Science Spring 2021 – Present
Research topic: Deep Learning on Graphs
Awarded Vanderbilt Russell G. Hamilton Graduate Scholars Award

M.S. Students

- Kayla Johnson, M.S. Data Science Feb 2021 – Present
Awarded the Neurodiversity Inspired Science & Engineering (NISE)
Graduate Trainee Fellowship
- Cole Sawyer, M.S. Computer Science Aug 2020 – Present
M.S. Thesis on Large-scale P2P Payment App Network Analysis

B.S. Students

- Emily Doebling, B.S. Computer Science Aug 2021 – Present
- Ao Qu, B.S. Computer Science, B.S. Economics, B.S. Mathematics Aug 2021 – Present
- Sam Libaire, B.S. Computer Science May 2021 – Present
Clark Scholars Program
- Chet Weissberg, B.S. Computer Science Feb 2021 – Present
2021 Data Science Institute Summer Research Program (DSI-SRP) Fellow
- Trevor Pillow, B.S. Computer Science Dec 2020 – Present
2021 Vanderbilt Undergraduate Summer Research Program (VUSRP)
- Benjamin Van Sleen, B.S. Computer Engineering, B.S. Economics, Dec 2020 – Present
and accelerated M.S. Computer Science
2021 Data Science Institute Summer Research Program (DSI-SRP) Fellow

High School Students

- Xinran Pan Jun 2021 – Present

Former B.S. Students

- Jack M. O'Keefe, B.S. Computer Science, B.S. Economics Dec 2020 – May 2021

Former Summer Interns

- Kaleb Briggs, B.S. Computer Information Systems Summer 2021
Visiting from Austin Peay State University
Frist Center for Autism and Innovation Summer Intern (2021)
- Norman Jetmundsen, B.S. Computer Science Summer 2021
Visiting from University of Tennessee at Chattanooga
Frist Center for Autism and Innovation Summer Intern (2021)

**MENTORING
(NOT AS
ADVISOR)**

Data Science and Engineering Lab, Michigan State University

- Wei Jin, Ph.D. Computer Science & Engineering Nov 2019 – Present
Ongoing Project on graph neural networks
Co-authored "Node Similarity Preserving Graph Convolutional Networks" WSDM'21
Co-authored "Self-supervised Learning on Graphs: Deep Insights and New Directions" (Preprint)
- Aaron Brookhouse, B.S. Electrical Engineering Aug 2018 – Present
MSU Professorial Assistantship Program
Co-authored "Multi-Factor Congressional Vote Prediction" ASONAM'19
Co-authored "Road to the White House: Analyzing the Relations Between
Mainstream and Social Media During the U.S. Presidential Primaries" (Preprint)

Poster presentation of our work at MID-SURE 2019

Wrote him letters of recommendation for 2020 REU applications

He accepted WSU's Smart Environments REU Program (and invited to others)

- Jamell Dacon, Ph.D. Computer Science & Engineering Aug 2018 – May 2021
 MSU Enrichment Fellowship (UEF)
 Project on Black Lives Matter in Social Media
 Co-authored "Link and Interaction Polarity Predictions in Signed Networks" SNAM
 Survey on cross-domain recommender systems
- Hua Liu, Ph.D. Mathematics at Shandong University Nov 2019 – Nov 2020
 Project on signed network analysis
- Namratha Shah, M.S. Computer Science & Engineering May 2020 – Aug 2020
 Project on social media and mental health
- Andrew McDonald, B.S. in Computer Science, Mathematics, and Statistics Mar 2019 – Aug 2020
 MSU Alumni Distinguished Scholar
 Mentored through the Graduate Women in Science Mentor Program
 Work accepted at AAAI 2020 Undergraduate Consortium
- Haochen Liu, Ph.D. Computer Science & Engineering Jan 2019 – Dec 2019
 Two papers under review
 Co-authored "Chat as Expected: Learning to Manipulate Black-box Neural Dialogue Models"
 (Preprint)
 Co-authored "Say What I Want: Towards the Dark Side of Neural Dialogue Models" (Preprint)
- Daniel K. Ofori-Dankwa, M.S. Computer Science & Engineering May 2018 – May 2019
 Project on "Bitcoin Price Predictions"
 Next position: Microsoft
- Linghao Ji, B.S. Computer Science & Engineering Aug 2018 – Aug 2019
 Project on "Analyzing Swing Voters in Congress"
 Wrote him letters of recommendation for M.S. applications
 Next position: Applied Data Analytics M.S. student at BU
- Cassidy Johnson, B.S. Computer Science & B.S. Mathematics May 2018 – Aug 2018
 2018 Summer Research Opportunities Program
 Co-authored "Balance in Signed Bipartite Networks" CIKM'19
 Next position: Lawrence Livermore National Lab Intern
- Mitansh Madan, B.S. Computer Science & Engineering Oct 2017 – May 2018
 Independent study through CSE department
- Pegah Varghaei, B.S. Computational Mathematics Mar 2017 – May 2018
 Next position: Comp. Math Science and Eng. Ph.D. student at MSU
- Chenxing Wang, M.S. Statistics Feb 2017 – May 2018
 Co-authored "Relevance Measurements in Online Signed Social Networks" MLG'18
 Next position: Computer Science Ph.D. student at IUPUI
- Yue Lab**, The Pennsylvania State University College of Medicine
 - Simon Kuang, High School student Jun 2014 – Apr 2015
 Project nominated for Google Science Fair Regional Finalist (2014)
 Next Position: Computer Science & Electrical Engineering B.S. student at UC Berkeley

SYMPOSIUMS / WORKSHOPS Yu Wang and Tyler Derr. Tackling Over-squashing in Graph Neural Networks via Higher-order Neighborhood Disentanglement. International Conference on Data Mining (SDM21) Doctoral Forum, SIAM, Poster, 2021.

Wei Jin, Tyler Derr, Haochen Liu, Yiqi Wang, Suhang Wang, Zitao Liu, and Jiliang Tang. Self-supervised Learning on Graphs: Deep Insights and New Directions. The Workshop on Self-Supervised Learning for the Web @ WWW, Presentation and poster, 2021.

Tyler Derr Jiliang Tang. Network Analysis with Negative Links. *Michigan State University Engineering Graduate Research Symposium*, Poster, 2020.

Tyler Derr. Analyzing Negative Links in Online Social Media. *Michigan State University Graduate Academic Conference*, Presentation, 2020.

Hamid Karimi, Jiangtao Huang, Tyler Derr. A Deep Model for Predicting Online Course Performance. *Workshop on Artificial Intelligence for Education (AI4EDU) @ AAAI*, Presentation, 2020.

Tyler Derr. Network Analysis with Negative Links. *Michigan AI Symposium - AI For Society*, Poster, 2019.

Tyler Derr. Network Analysis with Negative Links. *International Conference on Data Mining (SDM19) Doctoral Forum*, SIAM, Poster, 2019. **Best Poster Award**

Aaron Brookhouse, Tyler Derr, Hamid Karimi, and Jiliang Tang. Why Do People Unfollow on Twitter. *Mid-Michigan Symposium for Undergraduate Research Experiences (MID-SURE)*, Poster, 2019.

Tyler Derr, Yao Ma, and Jiliang Tang. Signed Graph Convolutional Networks. *Michigan State University Engineering Graduate Research Symposium*, Poster, 2019 .

Tyler Derr, Hamid Karimi, and Jiliang Tang. Multi-Factor Congressional Vote Prediction. *Michigan State University Graduate Academic Conference - Three-Minute Thesis Competition*, Presentation 2019. **“People’s Choice” Award**

Tyler Derr, Hamid Karimi, and Jiliang Tang. Deep Congressional Vote Prediction. *Southeast Michigan Postdoctoral Symposium*, Presentation 2018. **Second Prize** Awarded by University of Michigan’s Postdoctoral Association

Tyler Derr and Jiliang Tang. Congressional Vote Analysis using Signed Networks. *IEEE International Conference on Data Mining (ICDM18) Ph.D. Forum*, Presentation, 2018.

Tyler Derr, Chenxing Wang, Suhang Wang, and Jiliang Tang. Node Relevance Measurements in Online Signed Social Networks. *Michigan State University Engineering Graduate Research Symposium*, Poster, 2018 .

Tyler Derr. Opinions Power Opinions: Joint Link and Interaction Polarity Predictions in Signed Networks. *International Conference on Data Mining (SDM17) Doctoral Forum*, SIAM, Poster, 2017.

Tyler Derr, Zhiwei Wang, and Jiliang Tang. Opinions Power Opinions: Joint Link and Interaction Polarity Predictions in Signed Networks. *Michigan State University Engineering Graduate Research Symposium*, Poster, 2017 .

Tyler Derr, Yanli Wang, and Feng Yue. A Supervised Learning Approach to the Prediction of Hi-C Data. *ENCODE 2015: Research Applications and Users Meeting*, Poster and presentation, 2015 .

Yanli Wang, Gal Yaroslavsky, Tyler Derr, and Feng Yue. Visualizing three-dimensional organization and long-range interactions of the mammalian genome with the 3D Genome Browser. *ENCODE 2015: Research Applications and Users Meeting*, Poster, 2015 .

Tyler Derr. Archimedes and His Approximation of $\sqrt{3}$. *MAA-EPaDel Regional Spring Conference*, Student Paper Session Talk, Dickinson College, 2013.

TUTORIALS

Graph Neural Networks: Models and Applications
 • Yao Ma, Wei Jin, Yiqi Wang, Tyler Derr, and Jiliang Tang.
 • 35th AAAI Conference on Artificial Intelligence (AAAI)

2021

- Deep Graph Learning: Foundations, Advances and Applications 2020
- Yu Rong, Tingyang Xu, Junzhou Huang, Wenbing Huang, Hong Cheng, Yao Ma, Yiqi Wang, Tyler Derr, Lingfei Wu, Tengfei Ma.
 - 26th ACM SIGKDD International Conference on Knowledge Discovery & Data Mining (KDD)
 - One of the most popular tutorials at KDD'20 with **more than 800 attendees**

INVITED TALKS	Navigating the Faculty Job Search College of Engineering Graduate Lunch & Learn Michigan State University (virtual due to COVID-19)	Oct 2020
	Demystifying the Black Box: AI/Machine Learning in the Modern Era Change++ (virtual due to COVID-19)	Sep 2020
	Graph Neural Networks: Social Networks and Beyond Biomedical Engineering Vanderbilt University (virtual due to COVID-19)	Sep 2020
	Analyzing Signed Social Networks Seminar in Computer Science University of Texas Rio Grande Valley (virtual due to COVID-19)	Sep 2020
	Self-supervised Learning on Graphs: Deep Insights and New Directions Workshop on Deep Learning on Graphs: Methods and Applications (DLG-KDD'20)/ Workshop on Mining and Learning with Graphs (MLG'20) ACM SIGKDD Conference on Knowledge Discovery and Data Mining (virtual due to COVID-19)	Aug 2020
	Data Science for Social Good Data Science Institute Vanderbilt University (virtual due to COVID-19)	Spring 2020
	Network Analysis with Negative Links Computer Science Department Binghamton University (virtual due to COVID-19)	Spring 2020
	Network Analysis with Negative Links Computer Science Department Drexel University (virtual due to COVID-19)	Spring 2020
	Network Analysis with Negative Links Computer Science Department Illinois Institute of Technology	Spring 2020
	Network Analysis with Negative Links Ying Wu College of Computing New Jersey Institute of Technology	Spring 2020
	Network Analysis with Negative Links School of Electrical Engineering and Computer Science Oregon State University (virtual due to COVID-19)	Spring 2020
	Network Analysis with Negative Links Department of Computer Science University of Alabama at Birmingham (canceled due to COVID-19)	Spring 2020
	Network Analysis with Negative Links Department of Computer Science University of Kentucky	Spring 2020
	Network Analysis with Negative Links Department of Computer Science & Engineering University of Nebraska	Spring 2020

Network Analysis with Negative Links School of Computing and Information University of Pittsburgh	Spring 2020
Network Analysis with Negative Links Department of Electrical Engineering and Computer Science Vanderbilt University (virtual due to COVID-19)	Spring 2020
Network Analysis with Negative Links Center for Computational Network Intelligence HRL Laboratories	May 2019
Signed Network Analysis: Community Detection & Link Prediction Applying Social Network Methods and Theories Counseling, Educational Psychology, and Special Education Department, MSU	Mar 2017

**TEACHING
EXPERIENCE**
Vanderbilt University

Instructor, Department of Computer Science • CS3891/5891-03: Social Network Analysis (Undergraduate/Graduate Level, Fall 21)	Jul 2021 – Present
Instructor, Data Science Institute • DS5720: Social Network Analysis (Graduate Level, Spring 21)	Jan 2021 – Present
Instructor, Department of Electrical Engineering and Computer Science • CS3891/5891-06: Social Network Analysis (Undergraduate/Graduate Level, Fall 20) • Received the Fall 2020 Teaching Innovation Award from the School of Engineering • Note: Our EECS department separated into ECE and CS in July 2021.	Aug 2020 – Jul 2021

Michigan State University

Co-Instructor, Computer Science and Engineering Department • Big Data Analysis (Undergraduate Level, Fall 18, Fall 19) • Data Mining (Graduate Level, Spring 18)	Aug 2018 – Dec 2019
Teaching Assistant, Computer Science and Engineering Department • Operating Systems (Fall 15 & Summer 16) • Intro to Programming I (Fall 16) • Database Systems (Spring 16 & Spring 17)	Aug 2015 – May 2017

The Pennsylvania State University

Grader, Computer Science and Mathematical Sciences Department • Course: Theory of Computation (Graduate level)	Aug 2014 – Dec 2015
Graduate Assistant, Computer Science and Mathematical Sciences Department Teaching assistant for: • Artificial Intelligence (Spring 14) • Formal Languages (Spring 14) • Discrete Mathematics (Fall 13) • Intermediate Programming in C++ (Fall 13)	Aug 2013 – May 2014
Math & Computer Science Tutor, Russell E. Horn Sr. Learning Center • Tutor and provide mentorship to students in mathematics and programming courses • Received training on learning techniques, cross-cultural communication, and critical thinking	Aug 2012 – May 2013

**OTHER WORK
EXPERIENCE**

HRL Laboratories, Malibu, CA, USA Research Scientist Intern/Contractor • Projects: (Related to my general research interests in the Center for Computational Network Intelligence, but can not disclose.) • Principal Investigator: Dr. Jiejun Xu	May 2019 – Jul 2020
United BioSource Corp., Harrisburg, PA, USA Software Developer Intern • Redesigned and then programmed a software configuration management system	May 2012 – Aug 2012

Computer Aid, Inc., Harrisburg, PA, USA

Technical Developer Intern

May 2011 – Dec 2011

- Received training in ASP.NET, SQL, and C# for Web Application Development

EXTERNAL SERVICES**Grant Proposal Panelist**

National Science Foundation (NSF)

2021

Conference and Workshop Chairships

- Social Media and Publicity Co-Chair, ACM Conference on Knowledge Discovery and Data Mining (KDD) 2022
- Doctoral Consortium Co-Chair, ACM International Conference on Web Search and Data Mining (WSDM) 2022
- Proceedings Co-chair, ACM Conference on Knowledge Discovery and Data Mining (KDD) 2021
- Workshop Co-organizer and Publicity Chair, Deep Graph Learning: Methodologies and Applications (DGLMA'19) @ IEEE BigData 2019

Program Committee Member

- The Web Conference (WWW) 2021-2022
- ACM International Conference on Web Search and Data Mining (WSDM) 2021
- Advances in Social Networks Analysis and Mining (ASONAM) 2021
- International Conference on Learning Representations (ICLR) 2021
- Graph Neural Networks and Systems Workshop (GNNSys) @ MLSys 2021
- International Conference on Machine Learning (ICML) 2021
- Conference on Empirical Methods in Natural Language Processing (EMNLP) 2021
- Association for Computational Linguistics Annual Meeting (ACL) 2021
- SIGKDD Conference on Knowledge Discovery and Data Mining (KDD) 2021
- Educational Advances in Artificial Intelligence Symposium @ AAAI 2021
- Neural Information Processing Systems (NeurIPS) 2020 – 2021
- Deep Learning on Graphs: Methods and Applications Workshop @ KDD 2020 – 2021
- Association for the Advancement of Artificial Intelligence (AAAI) 2020 – 2021
- International Joint Conferences on Artificial Intelligence (IJCAI) 2020 – 2021
- International ACM Conference on Web Science (WebSci) 2020 – 2021
- International Conference on Information Reuse and Integration for Data Science (IRI) 2020 – 2021
- International Conference on Information and Knowledge Management (CIKM) 2019 – 2021
- The International AAAI Conference on Web and Social Media (ICWSM) 2019 – 2021

Best Reviewer Award (2019 & 2021)

- IEEE International Conference on Big Data (BigData) 2018 – 2021
- Graph Techniques for Adversarial Activity Analytics (GTA3) Workshop @ IEEE BigData 2019 – 2021
- Artificial Intelligence for Education (AI4EDU) @ AAAI 2020
- Deep Learning on Graphs: Methodologies and Applications (DLGMA) @ AAAI 2020
- Network Modeling, Learning and Analysis (NMLA) Workshop @ WorldCIST 2020
- Applied Data Science for Healthcare Workshop @ KDD 2019 – 2020
- International Conference on Artificial Neural Networks (ICANN) 2019
- Deep Graph Learning: Methodologies and Applications (DGLMA'19) @ IEEE BigData 2019

Conference Sub-Reviewer

- SIGKDD Conference on Knowledge Discovery and Data Mining (KDD) 2019
- International Joint Conference on Artificial Intelligence (IJCAI) 2019
- North American Chapter of the Association for Computational Linguistics (NAACL-HLT) 2019
- Conference on Empirical Methods in Natural Language Processing (EMNLP) 2019
- The Web Conference (WWW) 2018 – 2019
- ACM International Conference on Web Search and Data Mining (WSDM) 2017 – 2019
- Association for the Advancement of Artificial Intelligence (AAAI) 2017 – 2019
- International Conference on Web and Social Media (ICWSM) 2017 – 2018
- Conference on Information and Knowledge Management (CIKM) 2017 – 2019

- Advances in Social Networks Analysis and Mining (ASONAM) 2017 – 2018
- ACM Conference on Research and Development in Information Retrieval (SIGIR) 2018 – 2019
- ACM Recommender Systems (RecSys) 2017, 2019

Journal Reviewer

- Proceedings of the National Academy of Sciences of the USA (PNAS) 2021 – Present
- Frontiers in Big Data - Data Mining and Management 2021 – Present
- IEEE Transactions on Computational Social Systems 2021 – Present
- Nature Communications Physics 2020 – Present
- IEEE Transactions on Knowledge and Data Engineering (TKDE) 2020 – Present
- Data Mining and Knowledge Discovery (DAMI) 2020 – Present
- Applied Network Science (ANS) 2019 – Present
- IEEE Transactions on Neural Networks and Learning Systems (TNNLS) 2019 – Present
- Neurocomputing 2019 – Present
- Wireless Communications and Mobile Computing 2019 – Present
- ACM Transactions on Knowledge Discovery from Data (TKDD) 2018 – Present

Journal Sub-Reviewer

- ACM Transactions on Information Systems (TOIS) 2019
- Data Mining and Knowledge Discovery (DAMI) 2017 – 2018
- IEEE Transactions on Network Science and Engineering (TNSE) 2017 – 2018
- Field Methods 2017
- Journal of Complex Networks 2017
- IEEE MultiMedia 2017
- International Journal of Data Science and Analytics (JDSA) 2017

Book Sub-Reviewer

- Springer 2019

INTERNAL SERVICES**Department of Computer Science (CS)**

- Ad hoc Committee for Online Presence Summer 2021–Present
- CS Undergraduate Advising 2021–Present
- Computer Science cohort from the Class of 2025

School of Engineering (VUSE)

- Undergraduate Summer Book Club 2021
- Faculty Cohort Leader

PhD Preliminary Exam Committee

- Caleb Vatrál (Computer Science) 2020
- Qi Yang (Computer Science) 2020
- Yayan (Ava) Zhao (Computer Science) 2020

PhD Qualifying Exam Committee

- Tianshu Bao (Computer Science) 2021
- James Ainooson (Computer Science) 2021

VOLUNTEERING Conference Volunteering

- Session chair at KDD 2021 2021
- “Web mining”
- “Humanities and Social Science”
- Invited judge for SDM 2021 Doctoral Forum
- Volunteer at KDD 2020 2020
- Volunteer at ICML 2020 2020
- Session chair at CIKM 2019 2019
- “Network Embedding I”

- Session chair at at ASONAM 2019
“Network Embedding”
“Network Algorithms” 2019
- Session chair for “PhD Forum” at ICDM 2018 2018
- Session chair at ASONAM 2018
“Ranking & Centrality” and “Modeling II” 2018
- Volunteer at KDD 2017 2017

General Volunteering

- Volunteer scientist for Skype a Scientist 2020 – Present
- Invited Judge for VandyHacks (VU’s premier student hackathon) 2021
- Intro to Machine Learning @ Ardsley High School’s Science Research class 2020
- Intro to Machine Learning @ Change++ (undergraduate students) 2020
- “Grad Chat” Nominated Panelist @ Michigan State University (undergraduate students) 2020
- Graduate Women in Science (Mid-MI) Mentor Program (undergraduate students) 2019 – 2020
- Activity leader for Girls Math & Science Data at MSU (middle school students) 2019 – 2020
- MSU Science Festival (K-5 students) 2019
- Intro to Artificial Intelligence @ Our Savior Lutheran Church Middle School 2019
- Intro to Computer Science @ Our Savior Lutheran Church Elementary School 2019
- Mid-Michigan Symposium for Undergraduate Research Experiences (Mid-SURE) 2017 – 2019
- Hosting and discussing with potential visiting MSU CSE Graduate Students 2017 – 2019
- “Life as a Grad Student” @ Michigan State University (undergraduate students) 2016 – 2019
- Michigan State University Undergraduate Research and Arts Forum (UURAF) 2016 – 2019
- Global Lions Mentor Program (incoming international students) 2013 – 2015
- MATHCOUNTS (middle school students) 2012 – 2014
- South Central PA Robotics Competition (high school students) 2012 – 2013

OLDER RESEARCH/ PROJECTS (PHD,MS,BS)

- Evolving Multi-Layer Markov Network Brains Using Adaptive Complexification Dec 2015 – Nov 2016
 - Evolving binary logic gate networks that can adaptively adjust their network complexity to solve boolean logic problems (e.g., 3-bit full adder) and a Mario Bros. agent.
- A Clustering Approach to the Bounded Diameter Minimum Spanning Tree Problem Using Ants May 2014 – Aug 2015
 - **Master’s Thesis** under the supervision of Dr. Thang N. Bui at Penn State Harrisburg
 - Using ant-based optimization to find good intra- and inter-cluster edges to cluster the nodes, build constrained spanning trees per cluster, connect them, then use local optimization.
- Micromouse for the IEEE Region 2 Student Activities Conference Jan 2014 – May 2014
 - Worked in a team to design, build, and program a robotic mouse to solve the IEEE maze.
- Software Verification and Security Analysis by Modeling System Specifications Aug 2012 – Aug 2013
 - Creating statecharts, modeling them using PROMELA, and designing safety/liveness properties in Linear Temporal Logic (LTL) to prove correctness using the Spin Model Checker
- Voice-to-Braille Translation System** May 2012 – May 2013
 - Worked in a team to design and create a refreshable braille display based on utilizing an, Arduino and Android app communicating via bluetooth to our custom refreshable braille device.

PROFESSIONAL AFFILIATIONS/ MEMBERSHIPS

- Pi Mu Epsilon, Honorary National Mathematics Society
 - Inducted Member 2012 – Present
- Institute of Electrical and Electronic Engineers
 - Member 2011 – Present
- Association of Computing Machinery
 - Member 2010 – Present
- Official ACM Student Chapter (Est. Fall 2012), Penn State Harrisburg
 - Vice President Aug 2012 – May 2013
 - Graduate Coordinator Aug 2013 – May 2014

Association for Computing Machinery (ACM) Club, Penn State Harrisburg	
• Vice President	Aug 2011 – May 2012
Math Club, Penn State Harrisburg	
• Vice President / Director of Activities	Aug 2011 – May 2013
Student Government Association (SGA), Penn State Harrisburg	
• Senator	Aug 2012 – May 2013
• Chairperson of Student Activities	Aug 2012 – Dec 2012
College Reading & Learning Association, International Tutor Training Program,	
• Level 1 Certified Tutor	2012

[CV compiled on 2021-09-13]