

Danai Koutra

CONTACT INFORMATION	University of Michigan, Ann Arbor Computer Science and Engineering 2260 Hayward (3633 Beyster bldg) Ann Arbor, MI 48109	Work: (+1) 734-764-4237 Mobile: (+1) 412-320-9996 E-mail: dkoutra@umich.edu Webpage: http://danaikoutra.com
POSITIONS	University of Michigan, Ann Arbor, USA <i>Morris Wellman Assistant Professor, CSE</i> <i>Affiliated, Computational Medicine and Bioinformatics</i>	Sep 2015- Aug 2019-
	Carnegie Mellon University, USA Graduate Researcher	Sep 2010-Aug 2015
	Technicolor Research Lab, Los Altos, USA <i>Research Intern</i>	Oct-Dec 2013, May-July 2014
	Microsoft Research, Redmond, USA <i>Research Intern</i>	May-Aug 2013
	IBM TJ Watson Research Center, Hawthorne, USA <i>Research Intern</i>	May-Aug 2012
	Institute for the Management of Information Systems, Greece <i>Undergraduate Research Intern</i>	Oct 2009-June 2010
EDUCATION	Carnegie Mellon University, USA <i>PhD in Computer Science, Computer Science Dept.</i> Thesis: "Exploring and Making Sense of Large Graphs" Advisor: Christos Faloutsos ACM SIGKDD 2016 Dissertation Award. Honorable Mention for the SCS Doctoral Dissertation Award. Nominated to ACM for the Doctoral Dissertation Award.	August 2015
	Carnegie Mellon University, USA <i>MS in Computer Science, Computer Science Dept.</i>	May 2015
	National Technical University of Athens, Greece <i>Diploma in Computer Science, 9.82/10.00 (Summa Cum Laude)</i> Thesis: "Approximate sequence matching with MapReduce" Advisors: Prof. Timos Sellis, Dr. Theodore Dalamagas, Dr. Thanasis Vergoulis	July 2010
RESEARCH INTERESTS	data science, large-scale graph mining, data mining, graph-based machine learning, graph neural networks, network representation learning, network neuroscience, summarization, network similarity, network alignment, mining time-evolving and streaming data, anomaly and event detection	
AWARDS & HONORS	<ul style="list-style-type: none">◇ Best paper candidate, IEEE ICDM◇ Among the '10 women leading the way in data science', Silicon Republic◇ Best student DM paper award, European Conference on Principles and Practice of Knowledge Discovery in Databases (ECML-PKDD)◇ ACM SIGKDD Rising Star Award◇ Facebook Faculty Research Award◇ Google Faculty Research Award	Nov 2020 Oct 2020 Sep 2020 Aug 2020 July 2020 Feb 2020

- ◇ **ACM WSDM 2020 Outstanding Senior PC Award** *Feb 2020*
- ◇ **Named Morris Wellman Faculty Development Professor** *Jan 2020*
- ◇ **Precision Health Investigator award** *Nov 2019*
- ◇ **Best student paper award**, IEEE International Conference on Data Mining (ICDM) *Nov 2019*
- ◇ **Best poster award**, ACNN Big Data Neuroscience Workshop *Sep 2019*
- ◇ **IJCAI Early Career Spotlight** (Selected, could not attend) *May 2019*
- ◇ **NSF CAREER Award** *Mar 2019*
- ◇ **ACM WSDM 2019 Outstanding PC Award** *Feb 2019*
- ◇ **Amazon Faculty Research Award** *Jan 2019*
- ◇ **Army Research Office Young Investigator Award** *Sep 2018*
- ◇ **Adobe Digital Experience Research Award** *Mar 2018*
- ◇ **Best paper** runner-up award, EDBT/ICDT *Mar 2018*
- ◇ **Best paper** candidate, IEEE ICDM *Nov 2017*
- ◇ **Best paper** candidate, AusDM *Dec 2016*
- ◇ **ACM SIGKDD Dissertation Award** winner. *Aug 2016*
- ◇ **Early Career Travel Award** for SDM, supported by NSF. *May 2016*
- ◇ **Honorable Mention for the SCS Doctoral Dissertation Award**, CMU. *Nov 2015*
- ◇ **Nomination to ACM** for the **Doctoral Dissertation Award**. *Nov 2015*
- ◇ **Rising Stars in EECS Workshop** *Nov 2014*
Selected to attend (1 of the 40 Ph.D./Postdoctoral scholars) and offered a travel award.
- ◇ **Heidelberg Laureate Forum** *Sep 2014*
Young researcher of the US delegation (1 of the 19 students), sponsored by NSF.
- ◇ **MLConf Invited Speaker** Travel Grant, Atlanta *Sepr 2014*
The only Ph.D. student to present, among professors, managers, and senior scientists.
- ◇ **Best student paper runner-up award**, PAKDD. *May 2014*
- ◇ **PAKDD Travel Award** to present my research. *May 2014*
- ◇ **Best paper nominee**, SDM. *Apr 2014*
- ◇ **SDM Travel Award** to present a tutorial and a paper. *Apr 2014*
- ◇ **ICDM Travel Award** to present my research at the conference. *Dec 2013*
- ◇ **CSD Nomination** for the **IBM fellowship** (1 of 2 students). *Oct 2013*
- ◇ **IBM First Patent Application Invention Achievement Award** *Dec 2013*
- ◇ **SDM Travel Award** to present my research at the conference. *May 2013*
- ◇ **Award from the Technical Chamber of Greece** *2012*
for ranking first among the students (over 500) of the School of ECE, NTUA.
- ◇ **Thomaideio Award** *2010*
for graduating first among the students (over 500) of the School of ECE, NTUA.
- ◇ **Kondoulis Award** *2010*
for graduating first among the students of NTUA, from 9 academic schools.
- ◇ **Chrysovergis Award** *2010*
for graduating first among the students (over 500) of the School of ECE, NTUA.
- ◇ **Multiple Scholarships** from **IKY** (Greek State Scholarships Foundation) *2005-2010*
for ranking first among over 500 students in ECE, NTUA.
- ◇ **Karydogianni Award** (every year) *2005-2010*
for excellent performance - awarded to students of the School of ECE and the School of Mechanical Engineering (over 3,500), NTUA.
- ◇ **Christos Papakyriakopoulos Award** *2006-2007*
for ranking first in Math among the students of the School of ECE, NTUA.
- ◇ **Award from General Secretariat for Youth** *2004-2005*
for ranking first among the students of Arsakion-Tositsio Ekalis School.
- ◇ **Multiple Awards from the Hellenic Mathematical Society** *2000-2002*
for excellent performance in "Thalis", nation-wide math competition.
- ◇ **Filekpedeutiki Society Scholarship** *1999-2005*
for ranking 1st among the students of Arsakion-Tositsio Ekalis School, every year.
- ◇ **Multiple Awards from the Greek Ministry of National Education and Religious Affairs** *1999-2005*

BOOKS

1. [Danai Koutra](#) and Christos Faloutsos. Individual and Collective Graph Mining: Principles, Algorithms, and Applications. Synthesis Lectures on Data Mining and Knowledge Discovery, October 2017, 206 pages. Morgan & Claypool publishers.

JOURNALS

18. Shengpu Tang, Parmida Davarmanesh, Yanmeng Song, [Danai Koutra](#), Michael Sjoding, Jenna Wiens. Democratizing EHR Analyses with FIDDLE - A Flexible Preprocessing Pipeline for Structured Clinical Data. Journal of the American Medical Informatics Association (**JAMIA**), 2020.
17. Ryan A. Rossi, Di Jin, Sungchul Kim, Nesreen K. Ahmed, [Danai Koutra](#), John Boaz Lee. On Proximity and Structural Role-based Embeddings in Networks: Misconceptions, Methods, and Applications. ACM Transactions on Knowledge Discovery from Data (**TKDD**), 2020.
16. Saba A. Al-Sayouri, [Danai Koutra](#), Evangelos E. Papalexakis, Sarah S. Lam. SURREAL: Sub-graph Robust Representation Learning. **Applied Network Science** 4(1): 88:1-88:20, December 2019.
15. Tara Safavi, Chandra Sripada, [Danai Koutra](#). Fast Network Discovery on Sequence Data via Time-Aware Hashing. Knowledge and Information Systems (**KAIS**), October 2019.
14. Asso Hamzehei, Raymond K. Wong, [Danai Koutra](#), Fang Chen. Collaborative topic regression for predicting topic-based social influence. **Machine Learning Journal**, Springer, January 2019.
13. Pin-Yu Chen, Chun-Chen Tu, Pai-Shun Ting, Ya-Yun Lo, [Danai Koutra](#), Alfred O. Hero III. Identifying Influential Links for Event Propagation on Twitter: A Network of Networks Approach. IEEE Transactions on Signal and Information Processing over Networks (**T-SIPN**), July 2018.
12. Oshini Goonetilleke, Kewen Liao, [Danai Koutra](#), Timos Sellis. On effective and efficient graph edge labeling. **Distributed and Parallel Databases**, 1-34, 2018.
11. Yike Liu, Tara Safavi, Abhilash Dighe, [Danai Koutra](#). Graph Summarization Methods and Applications: A Survey. **ACM Computing Surveys**, 51, 3, Article 62, 2018.
10. Geoffrey D. Hannigan, Melissa B. Duhaime, [Danai Koutra](#), Patrick D. Schloss. Biogeography & environmental conditions shape bacteriophage-bacteria networks across the human microbiome. **PLOS Computational Biology**, April 2018.
9. Yike Liu, Tara Safavi, Neil Shah, [Danai Koutra](#). Reducing Large Graphs to Small Supergraphs: A Unified Approach. Social Network Analysis and Mining (**SNAM**), Springer, 8, February 2018.
8. Neil Shah, [Danai Koutra](#), Lisa Jin, Tianmin Zou, Brian Gallagher, Christos Faloutsos. *On Summarizing Large-Scale Dynamic Graphs*. **Data Engineering Bulletin**, 40 (3), pp. 75-88, September 2017.
7. Di Jin, Aristotelis Leventidis, Haoming Shen, Ruowang Zhang, Junyue Wu, [Danai Koutra](#). PERSEUS-HUB: Interactive and Collective Exploration of Large-Scale Graphs. **Informatics**, 4(3), pp. 1-22, June 2017.
6. Pravallika Devineni, [Danai Koutra](#), Michalis Faloutsos, Christos Faloutsos. *Facebook Wall Posts: A Model for User Behaviors*. Social Network Analysis and Mining (**SNAM**), Springer, 6, pp. 1-15, January 2017.
5. [Danai Koutra](#), Neil Shah, Joshua T. Vogelstein, Brian Gallagher, Christos Faloutsos. *DELTA-CON: A Principled Massive-Graph Similarity Function with Attribution*. ACM Transactions on Knowledge Discovery from Data (**TKDD**), pp. 1-43, February 2016.
4. [Danai Koutra](#), U Kang, Jilles Vreeken, Christos Faloutsos. *Summarizing and Understanding Large Graphs*. **Special Issue of Statistical Analysis and Data Mining**, "Best of SDM 2014",

Wiley, pp. 183-202, May 2015.

3. Miguel Araujo, Spiros Papadimitriou, Stephan Guennemann, Christos Faloutsos, Prithwish Basu, Ananthram Swami, Evangelos E. Papalexakis, [Danai Koutra](#). *Discovery of 'comet' communities in temporal and labeled graphs (Com²)*. Knowledge and Information Systems (**KAIS**), pp. 657-677, May 2015.
2. Stephen Ranshous, Shitian Shen, [Danai Koutra](#), Steven Harenberg, Christos Faloutsos, and Nagiza F. Samatova. Anomaly Detection in Dynamic Networks: A Survey. **WIRES Computational Statistics**, Wiley, 7(3), pp. 223-247, May/June 2015.
1. Leman Akoglu, Hanghang Tong, [Danai Koutra](#). *Graph-based Anomaly Detection and Description: A Survey*. Data Mining and Knowledge Discovery (**DAMI, Springer**), pp. 626-688, April 2014.

CONFERENCE
PUBLICATIONS

59. Jiong Zhu, Ryan A. Rossi, Anup Rao, Tung Mai, Nedim Lipka, Nesreen K. Ahmed, [Danai Koutra](#). *Graph Neural Networks with Heterophily*. AAAI Conference on Artificial Intelligence (**AAAI'21**), 8 pages, February 2021.
58. Jiong Zhu, Yujun Yan, Lingxiao Zhao, Mark Heimann, Leman Akoglu, [Danai Koutra](#). *Beyond Homophily in Graph Neural Networks: Current Limitations and Effective Designs*. International Conference on Neural Information Processing Systems (**NeurIPS'20**), 8 pages, December 2020.
57. Yujun Yan, Kevin Swersky, [Danai Koutra](#), Parthasarathy Ranganathan, Milad Hashemi. *Neural Execution Engines: Learning to Execute Subroutines*. International Conference on Neural Information Processing Systems (**NeurIPS'20**), 8 pages, December 2020.
56. Tara Safavi, [Danai Koutra](#), Edgar Meij. *Evaluating the Calibration of Knowledge Graph Embeddings for Trustworthy Link Prediction*. Conference on Empirical Methods in Natural Language Processing (**EMNLP'20**), 10 pages, November 2020. (long paper)
55. Tara Safavi, [Danai Koutra](#). *CoDEX: A Comprehensive Knowledge Graph Completion Benchmark*. Conference on Empirical Methods in Natural Language Processing (**EMNLP'20**), 10 pages, November 2020. (long paper)
54. Caleb Belth, Alican Büyükcakir, [Danai Koutra](#). *A Hidden Challenge of Link Prediction: Which Pairs to Check?* IEEE International Conference on Data Mining (**ICDM'20**), 10 pages, November 2020. (acceptance rate 9.8%, long paper) **Selected as one of the best papers of ICDM'17. Invited for potential publication at the KAIS Journal, Springer.**
53. Josh Gardner, Jawad Mroueh, Natalia Jenuwine, Noah Weaverdyck, Samuel Krassenstein, Arya Farahi, [Danai Koutra](#). *Modeling and Predicting Multidimensional Patterns in Fleet Maintenance Data Towards Better Municipal Vehicle Management*. Data Science and Advanced Analytics (**DSAA'20**), 10 pages, October 2020. (acceptance rate 26.5%)
52. Kyle K. Qin, Flora D. Salim, Yongli Ren, Wei Shao, Mark Heimann, [Danai Koutra](#). *G-CREWE: Graph Compression With Embedding for Network Alignment*. ACM International Conference on Information and Knowledge Management (**CIKM'20**), 10 pages, October 2020. (acceptance rate 21%, long paper)
51. Xiyuan Chen, Mark Heimann, Fatemeh Vahedian, [Danai Koutra](#). *CONE-Align: Consistent Embedding-based Network Alignment*. ACM International Conference on Information and Knowledge Management (**CIKM'20**), 4 pages, October 2020. (acceptance rate 26%, short paper)
50. Wenjie Feng, Shenghua Liu, [Danai Koutra](#), Huawei Shen, Xueqi Cheng. *SPECGREEDY: Unified Dense Subgraph Detection*. ECML/PKDD European Conference on Principles and Practice of Knowledge Discovery in Databases (**ECML-PKDD'20**), 16 pages, September 2020. (acceptance rate 19%) **Best student DM paper award**
49. Caleb Belth, Xinyi (Carol) Zheng, [Danai Koutra](#). *Mining Persistent Activity in Continually Evolv-*

- ing Networks*. ACM SIGKDD International Conference on Knowledge Discovery and Data Mining (**KDD'20**), 9 pages + 1 page reproducibility appendix, August 2020. (acceptance rate 16.8%)
48. Marlena Duda, Chandra Sripada, [Danai Koutra](#). *An Alternative to the Sliding Window: Validating Dynamicity in rs-fMRI with a Data-Driven Approach*. Organization for Human Brain Mapping (**OHBM'20**), 2020.
 47. Caleb Belth, Xinyi (Carol) Zheng, Jilles Vreeken, [Danai Koutra](#). *What is normal, What is Strange, and What is Missing in a Knowledge Graph: Unified Characterization via Inductive Summarization*. The Web Conference (**WebConf'20**), April 2020 (acceptance rate 19%, oral presentation)
 46. Tara Safavi, Adam Fourney, Robert Sim, Marcin Juraszek, Shane Williams, Ned Friend, [Danai Koutra](#), Paul Bennett. *Toward Activity Discovery in the Personal Web*. ACM International Conference on Web Search and Data Mining (**WSDM'20**), February 2020. (oral presentation)
 45. Tara Safavi, Caleb Belth, Lukas Faber, Davide Mottin, Emmanuel Müller, [Danai Koutra](#). *Personalized Knowledge Graph Summarization: From the Cloud to Your Pocket*. IEEE International Conference on Data Mining (**ICDM'19**), 10 pages, November 2019. (acceptance rate 9%, long paper)
 44. Mark Heimann, Tara Safavi, [Danai Koutra](#). *Distribution of Node Embeddings as Multiresolution Features for Graphs*. IEEE International Conference on Data Mining (**ICDM'19**), 10 pages, November 2019. (acceptance rate 9%, long paper) **Best student paper award**
 43. Caleb Belth, Fahad Kamran, Donna Tjandra, [Danai Koutra](#). *When to Remember Where You Came from: Node Representation Learning in Higher-order Networks*. IEEE/ACM International Conference on Social Networks Analysis and Mining (**ASONAM'19**), 4 pages, August 2019. (acceptance rate 15%)
 42. Di Jin, Mark Heimann, Ryan Rossi, [Danai Koutra](#). *node2bits: Compact Time- and Attribute-aware Node Representations*. ECML/PKDD European Conference on Principles and Practice of Knowledge Discovery in Databases (**PKDD'19**), 16 pages, September 2019. (acceptance rate 18%)
 41. Yujun Yan, Jiong Zhu, Marlena Duda, Eric Solarz, Chandra Sripada, [Danai Koutra](#). *GroupINN: Grouping-based Interpretable Neural Network-based Classification of Limited, Noisy Brain Data*. ACM SIGKDD International Conference on Knowledge Discovery and Data Mining (**KDD'19**), 9 pages + 1 page reproducibility appendix, August 2019. (oral presentation, acceptance rate 9%)
 40. Di Jin, Ryan A. Rossi, Eunye Koh, Sungchul Kim, Anup Rao, [Danai Koutra](#). *Latent Network Summarization*. ACM SIGKDD International Conference on Knowledge Discovery and Data Mining (**KDD'19**), 9 pages + 2 pages reproducibility appendix, August 2019. (acc. rate 14%)
 39. Di Jin*, Mark Heimann*, Tara Safavi, Mengdi Wang, Wei Lee, Lindsay Snider, [Danai Koutra](#). *Smart Roles: Inferring Professional Roles in Email Networks*. ACM SIGKDD International Conference on Knowledge Discovery and Data Mining (**KDD'19**), 9 pages + 1 page reproducibility appendix, August 2019. (acceptance rate 20.7%)
 38. Michael Sjoding, Shengpu Tang, Parmida Davarmanesh, Yanmeng Song, [Danai Koutra](#), and Jenna Wiens. *Democratizing EHR Analyses - A Comprehensive, Generalizable Pipeline for Learning from Clinical Data*. Machine Learning for Healthcare (**MLHC'19**), 1 page (clinical abstract), August 2019.
 37. Sang Won Lee, Aaron Willette, [Danai Koutra](#), Walter Lasecki. *The Effect of Social Interaction on Facilitating Audience Participation in a Live Music Performance*. ACM Creativity and Cognition (**C&C'19**), 12 pages, June 2019. (acceptance rate 29.7%)
 36. Yike Liu, Linhong Zhu, Pedro Szekely, Aram Galstyan, [Danai Koutra](#). *Coupled Clustering of*

- Time-Series and Networks*. SIAM International Conference on Data Mining (**SDM'19**), 9 pages (+4 pages supplementary material), May 2019. (acceptance rate 22.7%)
35. Mark Heimann, Haoming Shen, Tara Safavi, [Danai Koutra](#). *REGAL: Representation Learning-based Graph Alignment*. ACM International Conference on Information and Knowledge Management (**CIKM'18**), 10 pages, October 2018. (acceptance rate 17%, full paper) [Taught in graduate courses \(e.g., Purdue University\)](#).
 34. Tara Safavi, Maryam Davoodi, [Danai Koutra](#). *Career Transitions and Trajectories: A Case Study in Computing*. ACM SIGKDD International Conference on Knowledge Discovery and Data Mining (**KDD'18**), 9 pages, August 2018. (acceptance rate 22%) – *Also accepted for oral presentation at the KDD 2018 BigScholar workshop*.
 33. Saba Al-Sayouri, Ekta Gujral, [Danai Koutra](#), Evangelos Papalexakis, Sarah Liam. *t-PNE: Tensor-based Predictable Node Embeddings*. IEEE/ACM International Conference on Advances in Social Networks Analysis and Mining (**ASONAM'18**), 4 pages, August 2018. (acceptance rate 30%, short paper)
 32. Mark Heimann, Wei Lee, Shengjie Pan, Kuan-Yu Chen, [Danai Koutra](#). *HashAlign: Hash-based Alignment of Multiple Graphs*. Pacific-Asia Conference on Knowledge Discovery and Data Mining (**PAKDD'18**), 14 pages, 2018.
 31. Yujun Yan, Mark Heimann, Di Jin, [Danai Koutra](#). *Fast Flow-based Random Walk with Restart in a Multi-query Setting*. SIAM International Conference on Data Mining (**SDM'18**), 9 pages, May 2018.
 30. Jie Song, [Danai Koutra](#), Murali Mani, H.V. Jagadish. *GeoAlign: Interpolating Aggregates over Unaligned Partitions*. International Conference on Extending Database Technology (**EDBT / ICDT'18**), 12 pages, March 2018. (regular paper). [Best paper runner-up award](#)
 29. Tara Safavi, Chandra Sripada and [Danai Koutra](#). *Scalable Hashing-Based Network Discovery*. IEEE International Conference on Data Mining (**ICDM'17**), 10 pages, November 2017. (acceptance rate 9%, long paper) [Selected as one of the best papers of ICDM'17. Invited for potential publication at the KAIS Journal, Springer. Integrated into production systems that guide Google's network planning and operation workflows.](#)
 28. Di Jin and [Danai Koutra](#). *Exploratory Analysis of Graph Data by Leveraging Domain Knowledge*. IEEE International Conference on Data Mining (**ICDM'17**), 10 pages, November 2017. (acceptance rate 9%, long paper)
 27. Josh Gardner, [Danai Koutra](#), Jawad Mroueh, Victor Pang, Arya Farahi, Sam Krassenstein, Jared Webb. *Driving with Data: Modeling and Forecasting Vehicle Fleet Maintenance in Detroit*. Data for Exchange Conference (**D4XG'17**), pp. 1-8, September 2017.
 26. Allie Cell, Bhavika Reddy Jalli, Adam Rauh, Xinyu Tan, Jared Webb, Joshua Bochu, Arya Farahi, [Danai Koutra](#), Jonathan Stroud, Colin Tan. *Understanding Blight Ticket Compliance in Detroit*. Data Science for Social Good Conference (**DSSG'17**), pp. 1-8, September 2017.
 25. [Danai Koutra](#), Abhilash Dighe, Smriti Bhagat, Udi Weinsberg, Stratis Ioannidis, Christos Faloutsos and Jean Bolot. *PNP: Fast Path Ensemble Method for Movie Design*. ACM SIGKDD International Conference on Knowledge Discovery and Data Mining (**KDD'17**), pp. 1527-1536, August 2017. (acceptance rate 9%, oral presentation)
 24. Amanda Minnich, Nikan Chavoshi, [Danai Koutra](#) and Abdullah Mueen. *BotWalk: Efficient Adaptive Exploration of Twitter Bot Networks*. IEEE/ACM International Conference on Advances in Social Networks Analysis and Mining (**ASONAM'17**), 10 pages, July 2017. (acceptance rate 19%, full paper)
 23. Pravallika Devineni, Evangelos Papalexakis, [Danai Koutra](#), Michalis Faloutsos. *One Size Does Not Fit All: Profiling Personalized Time-Evolving User Behaviors*. IEEE/ACM International Conference on Advances in Social Networks Analysis and Mining (**ASONAM'17**), 10 pages,

July 2017. (acceptance rate 19%, full paper)

22. Oshini Goonetilleke, Kewen Liao, [Danai Koutra](#), Timos Sellis. *Edge Labeling Schemes for Graph Data*. Statistical and Scientific Database Management (**SSDBM '17**), 12, pp. 1-12, June 2017. (acceptance rate 23%, full paper)
21. Di Jin, [Danai Koutra](#). *Exploratory Analysis of Graph Data by Leveraging Domain Knowledge*. International School and Conference on Network Science (**NetSci'17**), 1 page (abstract), June 2017.
20. Asso Hamzehei, Jiang Qiang, Raymond Wong, [Danai Koutra](#), Fang Chen. *TSIM: Topic-based Social Influence Measurement for Social Networks*. Australasian Data Mining Conference (**AusDM'16**), 9 pages, December 2016. (acceptance rate 40-45%) **Selected as one of the best papers of AusDM'16. Invited to Australasian Journal of Information Systems.**
19. Venkata Krishna Pillutla, Zhanpeng Fang, Pravallika Devineni, [Danai Koutra](#), Christos Faloutsos, Jie Tang. *On Skewed Multi-dimensional Distributions: the FusionRP Model, Algorithms, and Discoveries*. SIAM International Conference on Data Mining (**SDM'16**), pp. 783-791, May 2016. (acceptance rate 25.9%)
18. Neil Shah, [Danai Koutra](#), Brian Gallagher, Christos Faloutsos. *TIMECRUNCH: Interpretable Dynamic Graph Summarization*. ACM SIGKDD International Conference on Knowledge Discovery and Data Mining (**KDD'15**), pp. 1055-1064, August 2015. (acceptance rate ~ 19%, full paper)
17. Wolfgang Gatterbauer, Stephan Gunnemann, [Danai Koutra](#), Christos Faloutsos. *Linearized and Single-Pass Belief Propagation*. Proceedings of the VLDB Endowment, Volume 8 (**VLDB'15**), pp. 581-592, August 2015. (acceptance rate 21%)
16. Pravallika Devineni, [Danai Koutra](#), Michalis Faloutsos, Christos Faloutsos. *If walls could talk: Patterns and anomalies in Facebook wallposts*. IEEE/ACM International Conference on Advances in Social Networks Analysis and Mining (**ASONAM'15**), pp. 367-374, August 2015. (acceptance rate 18%, full paper)
15. [Danai Koutra](#), Paul N. Bennett, Eric Horvitz. *Events and Controversies: Influences of a Shocking News Event on Information Seeking*. International World Wide Web Conference (**WWW'15**), pp. 614-624, May 2015. (acceptance rate 14%) **Covered in the press: MIT Technology Review, Technology.org and more.**
14. Walter S. Lasecki, Mitchell Gordon, [Danai Koutra](#), Malte Jung, Steven P. Dow and Jeff P. Bigham. *Glance: Rapidly Coding Behavioral Video with the Crowd*. ACM Symposium on User Interface Science and Technology (**UIST'14**), pp. 551-562, October 2014. (acceptance rate 22%)
13. U Kang, Jay-Yoon Lee, [Danai Koutra](#), Christos Faloutsos. *Net-Ray: Visualizing and Mining Web-Scale Graphs*. Pacific-Asia Conference on Knowledge Discovery and Data Mining (**PAKDD'14**), pp. 348-361, May 2014. (acceptance rate 16.2%)
12. Miguel Araujo, Spiros Papadimitriou, Stephan Guennemann, Christos Faloutsos, Prithwish Basu, Ananthram Swami, Evangelos E. Papalexakis, [Danai Koutra](#). *Com2: Fast Automatic Discovery of Temporal ('Comet') Communities*. Pacific-Asia Conference on Knowledge Discovery and Data Mining (**PAKDD'14**), pp. 271-283, May 2014. (acceptance rate 16.2%) **Best student paper runner-up award.**
11. [Danai Koutra](#), U Kang, Jilles Vreeken, Christos Faloutsos. *VoG: Summarizing and Understanding Large Graphs*. SIAM International Conference on Data Mining (**SDM'14**), pp. 91-99, April 2014. (acceptance rate 15.4%) **Selected as one of the best papers of SDM'14. Taught in graduate courses (Saarland University at Department of Databases and Information Systems, "Topics in Algorithmic Data Analysis" by Dr. Pauli Miettinen and Dr. Jilles Vreeken).**
10. Yibin Lin, Agha Ali Raza, Jay-Yoon Lee, [Danai Koutra](#), Roni Rosenfeld, Christos Faloutsos. *In-*

fluence Propagation: Patterns, Model and Case Study. Pacific-Asia Conference on Knowledge Discovery and Data Mining (**PAKDD'14**), pp. 386-397, May 2014. (acceptance rate 16.2%)

9. [Danai Koutra](#), Hanghang Tong, David Lubensky. *BIG-ALIGN: Fast Bipartite Graph Alignment*. IEEE International Conference on Data Mining (**ICDM'13**), pp. 389-398, December 2013. (acceptance rate 11.6%)
 8. Michele Berlingerio, [Danai Koutra](#), Tina Eliassi-Rad, Christos Faloutsos. *Network Similarity via Multiple Social Theories*. IEEE/ACM International Conference on Advances in Social Networks Analysis and Mining (**ASONAM'13**), pp. 1439-1440, August 2013. (acceptance rate 13%)
 7. Ted Senator, [Danai Koutra](#) et al. *Detecting Insider Threats in a Real Corporate Database of Computer Usage Activities*. ACM SIGKDD International Conference on Knowledge Discovery and Data Mining (**KDD'13**), pp. 1393-1401, August 2013. (acceptance rate 25%, government and industry track)
 6. Jay-Yoon Lee, U Kang, [Danai Koutra](#), Christos Faloutsos. *Fast anomaly detection despite the duplicates*. **WWW 2013** (Companion Volume), pp. 195-196, May 2013. (acceptance rate 15%)
 5.  [Danai Koutra](#), Joshua Vogelstein, and Christos Faloutsos. *DeltaCon: A Principled Massive-Graph Similarity Function*. SIAM International Conference on Data Mining (**SDM'13**), pp. 162-170, May 2013. (acceptance rate 14.4%) [Taught in graduate courses \(Rutgers University at Department of Computer Science, "Information in Networks: Theory, Algorithms, and Applications" by Prof. Tina Eliassi-Rad\).](#)
 4.  [Danai Koutra](#), Vasileios Koutras, B. Aditya Prakash, Christos Faloutsos. *Patterns amongst Competing Task Frequencies: Super-Linearities, and the Almond-DG model*. Pacific-Asia Conference on Knowledge Discovery and Data Mining (**PAKDD '13**), pp. 201-212, April 2013. (acceptance rate 16.1%) [Taught in graduate courses \(Virginia Tech at Department of Computer Science, "Data Mining Large Networks and Time Series" by Prof. B. Aditya Prakash\).](#)
 3. [Danai Koutra](#), Evangelos Papalexakis, Christos Faloutsos. *TENSORSPLAT: Spotting Latent Anomalies in Time*. Panhellenic Conference on Informatics with international participation (**PCI'12**), pp. 144-149, October 2012. (acceptance rate ~ 46%)
 2. Keith Henderson, Brian Gallagher, Tina Eliassi-Rad, Hanghang Tong, Sugato Basu, Leman Akoglu, [Danai Koutra](#), Lei Li, Christos Faloutsos. *RoIX: Structural Role Extraction & Mining in Large Graphs*. ACM SIGKDD International Conference on Knowledge Discovery and Data Mining (**KDD'12**), pp. 1231-1239, August 2012. (acceptance rate 17.6%) [Used by the US government and industry \(e.g., IBM System G Graph Analytics\) and included open-source software "Stanford Network Analysis Project" \(SNAP\).](#)
 1.  [Danai Koutra](#), Tai-You Ke, U Kang, Duen Horng (Polo) Chau, Hsing-Kuo Kenneth Pao, and Christos Faloutsos. *Unifying Guilt-by-Association Approaches: Theorems and Fast Algorithms*. European Conference on Machine Learning and Principles and Practice of Knowledge (**ECML PKDD'11**), pp. 245-260, September 2011. (acceptance rate 20%) [Taught in graduate courses \(CMU at Tepper School of Business, Business Technology Seminar by Prof. Wolfgang Gatterbauer AND Rutgers University at Department of Computer Science, "Information in Networks: Theory, Algorithms, and Applications" by Prof. Tina Eliassi-Rad\).](#)
- OTHER REFEREED PUBLICATIONS
28. Tara Safavi, [Danai Koutra](#). *Generating Negative Commonsense Knowledge*. Knowledge Representation & Reasoning Meets Machine Learning Workshop (**NeurIPS KR22ML'20**), poster, December 2020.
 27. Junchen Jin, Mark Heimann, Di Jin, [Danai Koutra](#). *Understanding and Evaluating Structural Node Embeddings*. ACM SIGKDD Workshop on Mining and Learning with Graphs (**SIGKDD MLG'20**), August 2020.
 26. Puja Trivedi, Alican Büyükcakir, Yin Lin, Yinlong Qian, Di Jin, [Danai Koutra](#). *On Structural vs. Proximity-based Temporal Node Embeddings*. ACM SIGKDD Workshop on Mining and Learning with Graphs (**SIGKDD MLG'20**). August 2020.

25. Marlena Duda, Chandra Sripada, [Danai Koutra](#). *Data-Driven Approaches for Investigating Functional Connectivity Dynamics in Resting State fMRI*, Advanced Computational Neuroscience Network (**ACNN'19**) Big Data Neuroscience Workshop, poster, September 2019. [Best poster award](#)
24. Caleb Belth, Fahad Kamran, Donna Tjandra, [Danai Koutra](#). *When to Remember Where You Came from: Node Representation Learning in Higher-order Networks*. ACM SIGKDD Workshop on Mining and Learning with Graphs (**SIGKDD MLG'19**), 4 pages, August 2019.
23. Yujun Yan, Jiong Zhu, Marlena Duda, Eric Solarz, Chandra Sripada, [Danai Koutra](#). *GroupINN: Grouping-based Interpretable Neural Network-based Classification of Limited, Noisy Brain Data*. ACM SIGKDD Workshop on Mining and Learning with Graphs (**SIGKDD MLG'19**), 9 pages, August 2019.
22. Di Jin, Ryan A. Rossi, Eunye Koh, Sungchul Kim, Anup Rao, [Danai Koutra](#). *Latent Network Summarization*. ACM SIGKDD Workshop on Mining and Learning with Graphs (**SIGKDD MLG'19**), August 2019. (acceptance rate 14%)
21. Lukas Faber, Tara Safavi, Davide Mottin, Emmanuel Muller, [Danai Koutra](#). Adaptive Personalized Knowledge Graph Summarization. ACM SIGKDD Workshop on Mining and Learning with Graphs (**SIGKDD MLG'18**), 4 pages, August 2018.
20. Jie Song, [Danai Koutra](#), Murali Mani, H.V. Jagadish. *GeoFlux: Hands-Off Data Integration Leveraging Join Key Knowledge*. ACM SIGMOD (**SIGMOD'18**), 2018 (demo).
19. Yujun Yan and [Danai Koutra](#). *Fast, Distributed Graph Methods in a Multi-query Setting*. In the 12th Women in Machine Learning Workshop (**WiML'17**), NIPS, 1 page (abstract), December 2017.
18. [Danai Koutra](#) and Markos Koutras. *Random order statistics probability models for networks*. In the the European Conference for Statistics of Network Data Science (**COSTNET '17**), 1 page (abstract), October 2017.
17. Mark Heimann and [Danai Koutra](#). *On Generalizing Neural Node Embedding Methods to Multi-Network Problems*. ACM SIGKDD Workshop on Mining and Learning with Graphs (**SIGKDD MLG'17**), 4 pages, August 2017.
16. Saba Al-Sayouri, Pravallika Devineni, Sarah S. Lam, Evangelos E. Papalexakis and [Danai Koutra](#). *GECS: Graph Embedding Using Connection Subgraphs*. ACM SIGKDD Workshop on Mining and Learning with Graphs (**SIGKDD MLG'17**), 4 pages, August 2017.
15. Lisa Jin and [Danai Koutra](#). *ECOViz: Comparative Visualization of Time-Evolving Network Summaries*. ACM SIGKDD Interactive Data Exploration and Analytics workshop (**SIGKDD IDEA'17**), 8 pages, August 2017.
14. Tara Safavi, Chandra Sripada, [Danai Koutra](#). *Scalable Inference of Functional Networks from Time Series Data*. SDM Workshop on Inferring Networks from Non-Network Data (**NetInf'17**), 4 pages, April 2017.
13. Yike Liu, Tara Safavi, Neil Shah, [Danai Koutra](#). *Reducing Million-Node Graphs to a Few Structural Patterns: A Unified Approach*. ACM SIGKDD Workshop on Mining and Learning with Graphs (**SIGKDD MLG'16**), 8 pages, August 2016.
12. Di Jin, Christos Faloutsos, [Danai Koutra](#), Ticha Sethapakdi. *PERSEUS3: Visualizing and Interactively Mining Large-Scale Graphs*. ACM SIGKDD Workshop on Mining and Learning with Graphs (**SIGKDD MLG'16**), 4 pages, August 2016.
11. [Danai Koutra](#), Di Jin, Yuanchi Ning, Christos Faloutsos. *Perseus: An Interactive Large-Scale Graph Mining and Visualization Tool*. Hellenic Data Management Symposium (**HDMS'16 Demo**), July 2016.
10. Sai Gouravajhala, Walter Lasecki, [Danai Koutra](#). *Towards Crowd-Assisted Data Mining*. CHI Workshop on Human-Centered Machine Learning, 5 pages, May 2016.

9. Jinyeong Yim, Jeel Jasani, Aubrey Henderson, [Danai Koutra](#), Steven Dow, Winnie Leung, Ellen Lim, Mitchell Gordon, Jeffrey P. Bigham, Walter S. Lasecki. *Coding Varied Behavior Types Using the Crowd*. ACM Conference on Computer Supported Cooperative Work and Social Computing Companion (**CSCW '16 demo**), pp. 114-117, February 2016.
 8. Yike Liu, Neil Shah, [Danai Koutra](#). *An Empirical Comparison of the Summarization Power of Graph Clustering Methods*. Neural Information Processing Systems (NIPS) Workshop on Networks in the Social and Information Sciences, 9 pages, December 2015.
 7. [Danai Koutra](#), Di Jin, Yuanchi Ning, Christos Faloutsos. *Perseus: An Interactive Large-Scale Graph Mining and Visualization Tool*. Proceedings of the VLDB Endowment (**VLDB'15 Demo**), August 2015.
 6. [Danai Koutra](#), Paul N. Bennett, Eric Horvitz. *Influences of a Shocking News Event on Web Browsing*. **SIGIR 2014 Workshop** on Temporal, Social and Spatially-aware Information Access (TAIA'14), 4 pages, July 2014. [Covered in the press: MIT Technology Review, Technology.org and more.](#)
 5. [Danai Koutra](#), Yu Gong, Saphira Ryman, Rex Jung, Joshua Vogelstein, Christos Faloutsos. *Are all brains wired equally?*. Organization for Human Brain Mapping (**OHBM'13**), June 2013.
 4. Michele Berlingerio, [Danai Koutra](#), Tina Eliassi-Rad, Christos Faloutsos. *A Scalable Approach to Size-Independent Network Similarity*. Workshop on Social Network and Social Media Analysis, Methods, Models, and Applications (**NIPS'12 Workshop**), 12 pages, December 2012.
 3. Michele Berlingerio, [Danai Koutra](#), Tina Eliassi-Rad, Christos Faloutsos. *NetSimile: A Scalable Approach to Size-Independent Network Similarity*. Workshop on Information in Networks (**WIN'12**). September 2012.
 2. Leman Akoglu*, Duen Horng Chau*, U Kang*, [Danai Koutra*](#), and Christos Faloutsos. (*: authors in alphabetical order). *Large Graph Mining System for Patterns, Anomalies & Visualization*. Pacific-Asia Conference on Knowledge Discovery and Data Mining (**PAKDD'12 Demo**), 4 pages, May 2012.
 1. Leman Akoglu*, Duen Horng Chau*, U Kang*, [Danai Koutra*](#), and Christos Faloutsos. *OPAvion: Mining and visualization in large graphs*. ACM SIGMOD Conference (**SIGMOD'12 Demo**), 4 pages, May 2012. *Note: Did the integration of the systems for the demo.*
- UNREFEREED PUBLICATIONS
4. Improving the Utility of Knowledge Graph Embeddings with Calibration. Tara Safavi, [Danai Koutra](#), Edgar Meij. arXiv:2004.01168, April 2020.
 3. Wolfgang Gatterbauer, Stephan Gunnemann, [Danai Koutra](#), Christos Faloutsos. *Linearized and Turbo Belief Propagation*. arXiv:1406.7288, October 2014.
 2. Jay-Yoon Lee, U Kang, [Danai Koutra](#), Christos Faloutsos. *Fast anomaly detection despite the duplicates*. CMU Technical Report, CMU-CS-12-146. December 2012.
 1. [Danai Koutra](#), Aaditya Ramdas, Ankur Parikh, Jing Xiang. *Algorithms for Graph Similarity and Subgraph Matching*. Report, CMU. 2011.
- SELECT PRESS COVERAGE
- ◇ **Microsoft Research Blog**. *The personal web: Connecting information for better search and recommendation*. Feb 2020
 - ◇ **The Michigan Engineer, News Center**. *Built by humans. Ruled by computers*. Feb 2019
 - ◇ **Venture Beat**. *Trove's AI scans company emails to unlock professional networks*. Aug 2017
 - ◇ **MIT Technology review**. *Sandy Hook, the Gun Control Debate, and the Insidious Influence of the Filter Bubble*. May 2014
 - ◇ **Technology.org**. *Ideological Internet bubbles stay strong, study shows*. May 2014

PATENTS

With Hanghang Tong, and David Lubensky, IBM Thomas J. Watson Research Center. Serial No.

14032105, September 2013.

7. Method and System for Bi-partite Graph Matching.
Obtained "rate-1" score (top score) = "extremely high potential business value for IBM".
6. Method and System for Cross-Population Community Alignment.
5. Method and System for Matching Dynamic Networks.
4. Method and System for Linking Heterogeneous Networks.
3. Method and System for Linking Multi-Relational Data sets.
2. Method and System to Explorative Cross-Network Data Analytics.
1. Method and System to Predictive Cross-Network Data Analytics.

TEACHING
EXPERIENCE

- ◇ **Large-scale Graph Mining: Network Summarization and Beyond** *Sep 2020*
5th International Summer School on Data Science (SSDS), Croatia (~ 70 students)
- ◇ **Data Mining** *Winter 2020*
EECS 476, University of Michigan, Ann Arbor (65 students)
- ◇ **Advanced Data Mining** *Fall 2019*
EECS 576, University of Michigan, Ann Arbor (~40 students)
- ◇ **Social Network Analysis** *June 2019*
MIDAS Data Science high school summer camp, University of Michigan, Ann Arbor
- ◇ **Unsupervised Machine Learning** (2 lectures) *June 2019*
Big Data Summer Institute (undergraduate program), School of Public Health,
University of Michigan, Ann Arbor
- ◇ **Advanced Data Mining** *Winter 2019*
EECS 598, Special Topics, University of Michigan, Ann Arbor. (50 students)
- ◇ **New Trends in Network Summarization** (~80 attendees) *December 2018*
Porto Winter School on Network Science, Portugal
- ◇ **New Trends in Summarizing Graphs at Multiple Scales,** *November 2018*
Tutorial at ICDM'18. (with Jilles Vreeken, and Francesco Bonchi)
- ◇ **Data Mining** *Fall 2018*
EECS 498-001, University of Michigan, Ann Arbor (69 students)
- ◇ **Unsupervised Machine Learning** (2 lectures) *July 2018*
Big Data Summer Institute (undergraduate program), School of Public Health,
University of Michigan, Ann Arbor
- ◇ **Mining Large-Scale Graph Data** *Winter 2018*
EECS 598, Special Topics, University of Michigan, Ann Arbor (51 students)
- ◇ **Data Mining** (new course) *Fall 2017*
EECS 498-001, University of Michigan, Ann Arbor (64 students)
- ◇ **Summarizing Large-Scale Graph Data: Algorithms, Applications
& Open Challenges** *April 2017*
Tutorial at SDM'17. (sole instructor)
- ◇ **Database Management Systems** *Winter 2017*
EECS 484, University of Michigan, Ann Arbor (283 students)
- ◇ **Mining Large-Scale Graph Data** *Fall 2016*
EECS 598, Special Topics, University of Michigan, Ann Arbor (34 students)
- ◇ **Tutorial on Mining Large-scale Graphs** *August 2016*
BIRS Workshop on Models and Algorithms for Crowds and Networks, Mexico.
- ◇ **Database Management Systems** *Winter 2016*
EECS 484, Winter 2016, University of Michigan, Ann Arbor (120 students)
- ◇ **Graph Mining and Exploration at Scale: Methods and Applications** (new) *Fall 2015*
EECS 598, Special Topics, University of Michigan, Ann Arbor (21 students)
- ◇ **"Node and graph similarity: Theory and Applications"** *Dec. 2014*
Tutorial at ICDM' 14. Co-instructors: Tina Eliassi-Rad, Christos Faloutsos.
(acceptance ratio: 22%)
- ◇ **Node similarity, graph similarity and matching: Theory and
Applications** *April 2014*

Tutorial at SDM'14. Co-instructors: Tina Eliassi-Rad, Christos Faloutsos.

- ◇ **Teaching Assistant** for "Database Applications" (15-415) *Spring 2013*
- ◇ **Teaching Assistant** for "Artificial Intelligence: Representation and Problem Solving" (15-381).
Also designed the webpage, which is still in use. *Fall 2012*
- ◇ **Teaching Assistant** for the NSA Graph Analytics Workshop, CMU. September 2012
- ◇ **Guest Lecture** on B-trees (15-826), *Spring 2012*
- ◇ **Guest Lecture** on Sorting and Query Optimization (15-415), *Spring 2012*

STUDENTS
MENTORED

Postdoctoral Researchers

- ◇ Arya Farahi, MIDAS Data Science Fellow, University of Michigan (Nov '19-)
- ◇ Fatemeh Vahedian, CSE, University of Michigan (Jan '20-)

Ph.D. Students

- ◇ Caleb Belth, CSE, University of Michigan (Sep '18-)
PhD Candidate since January 2020
[NSF Graduate Research Fellowship, 2020-2023](#)
[NDSEG Research Fellowship, 2020 \(declined\)](#)
- ◇ Aican Buyukcakir, CSE, University of Michigan (Sep '19-)
- ◇ Marlana Duda, Computational Medicine and Bioinformatics, University of Michigan (Jun '18-)
[NSF Graduate Research Fellowship, 2018-2021](#)
[Bioinformatics Training Grant, 2016-2018](#)
- ◇ Mark Heimann, CSE, University of Michigan (Jan '17-Aug '20; next: Lawrence Livermore National Laboratory)
Graduated in Aug '20.
- ◇ Di Jin, CSE, University of Michigan (Aug '16 - before M.S. in Computational Data Science, CMU)
PhD Candidate since September 2017
- ◇ Yike Liu, Physics / CSE, University of Michigan (Sep '15-Dec '16), Senior Data Scientist at Netflix
- ◇ Tara Safavi, CSE, University of Michigan (Ph.D. Sep '17-, Undergrad Jan-Dec '16, senior honors thesis Jan-Apr '17)
[NSF Graduate Research Fellowship, 2018-2021](#)
[1st year Rackham Dean's and Named PhD Fellowship, 2017-2018](#)
[Google Women Techmakers Scholarship, 2017](#)
[University of Michigan Outstanding Research Award, 2017](#)
PhD Candidate since May 2019
- ◇ Neil Shah, CSD Ph.D. student, CMU (advisor: Christos Faloutsos, Jun '13-Aug '14, now researcher at SnapChat)
- ◇ Puja Trivedi, CSE, University of Michigan (Sep '19-)
[Dwight F. Benton Fellowship, 2019-2020](#)
- ◇ Yujun Yan, CSE, University of Michigan (Ph.D. CSE Sep '17-, M.S. ECE May '16-'17)
PhD Candidate since May 2018
- ◇ Jiong Zhu, CSE, University of Michigan (Sep '19 -; previously an MS student)

M.S. Students

- ◇ Cheng Chang, CMU (currently at Amazon)
- ◇ Kuan-Yu Chen, University of Michigan, ECE (Sep '16-May '17)
- ◇ Zhaojun Chen, University of Michigan, ECE (2016)
- ◇ Maryam Davoodi, Eastern Michigan University, visiting scholar (May '16-Apr '17, currently PhD at Purdue University)
- ◇ Abhilash Dighe, University of Michigan (2015-2016; currently at Google)
- ◇ Lukas Faber, Hasso-Plattner-Institute, visited the University of Michigan (Feb-June '18)
- ◇ Josh Gardner, University of Michigan (2017-2018; now PhD student at UW)
- ◇ Yu Gong, CMU (2013-2014; currently at Amazon)
- ◇ Zheng Jing, University of Michigan, Statistics (Sep-Dec '19)

- ◇ Jay-Yoon Lee, LTI (2013-2014; currently CSD Ph.D. student)
- ◇ Wei Lee, University of Michigan (independent study, Jan '16-May '17 - currently at Trove AI)
- ◇ Yuanchi Ning, Institute of Software Research, CMU (now at Uber)
- ◇ Yaohua Shi, University of Michigan, ECE (Jan-Jul '17)
- ◇ Haoming Shen, University of Michigan, ECE (Mar '17-Apr '18)
- ◇ Renhan Zhang, University of Michigan, ECE (independent study, Winter '16)
- ◇ Tianmin Zou, Institute of Software Research, CMU (currently at Google)
- ◇ Jiong Zhu, University of Michigan, ECE (Apr '18-Aug '19; transitioned to PhD)
- ◇ M-DICE: Alec Kirkley (PhD), Gurpreet Singh Bhatia, Dorsa Massihpour, Varshant Dhar, Sijun Zhang, Zhihao Guo, Haochen (Wallace) Sui

Undergraduate Students

- ◇ Grae Abbott, University of Michigan (Sep'18-May'19)
- ◇ Jiongsheng Cai, University of Michigan (Feb-May '17)
- ◇ Neophytos Charalambides, University of Michigan (Sep-Dec'15, independent study)
- ◇ Xiyuan Chen, University of Michigan (May'19-Aug '20, senior honors thesis Jan-Apr '20, co-mentored by Mark Heimann and Fatemeh Vahedian)
- ◇ Parmida Davarmanesh, University of Michigan (Sep '19-)
- ◇ Jennings Jin, University of Michigan (Feb '17-May '17)
- ◇ Mark Jin, University of Michigan (May '19-Oct'19)
- ◇ Lisa Jin, University of Michigan (Aug '16-Aug. '17, now PhD at U. of Rochester)
- ◇ Brigid Johnson, University of Michigan (Sep '15-May '16, UROP)
- ◇ Paige Frederick, University of Michigan (May '16- May '17, independent study)
- ◇ Jacob Hage, University of Michigan (May '17-'18)
- ◇ Zhiyuan He, University of Michigan (Sep-May'16)
- ◇ Il Jae Lee, University of Michigan (Feb-May '17)
- ◇ Aristotelis S. Leventidis, University of Michigan (Feb '17-Mar '18, now PhD at Northeastern)
- ◇ Jiayue (Margaret) Lu, University of Michigan (Nov '18-May'19)
- ◇ Julia Lynn, University of Michigan (Jan-May 2018, now at JPMorgan Chase & Co.)
- ◇ Santosh Mohan, University of Michigan (Winter '16, now at Amazon)
- ◇ Swaraj Nayegandhi, University of Michigan (Nov '18-May'19)
- ◇ Chalse Okorom, University of Michigan (Sep '15-May '16, UROP)
- ◇ Shengjie Pan, University of Michigan (Jan '16-May '17, now at Amazon)
- ◇ Eric Solarz, University of Michigan (Sep '17-Jun '18, now at Chicago Trading Company)
- ◇ Charles Wang, University of Michigan (Sep-Dec '16, now at Palantir)
- ◇ Esther Wang, CMU CSD (2015)
- ◇ Harry Wang, University of Michigan (May '17-'18)
- ◇ Junhao Wang, University of Michigan (Sep '16-Dec'17, independent study)
- ◇ Shihui Wang, University of Michigan (Summer '18, SROP)
- ◇ Yi Wen, University of Michigan (Nov'18-May'19)
- ◇ Fan Yang, University of Michigan (Sep-Dec '16)
- ◇ Xiaochen Yu, University of Michigan (May '16-Jan '16)
- ◇ David Zhang, University of Michigan (2015)
- ◇ Ruowang (Jackie) Zhang, University of Michigan (2017, 2020)
- ◇ Xinyi (Carol) Zheng, University of Michigan (Sep '19-, soon PhD at CMU)
- ◇ [Honorable Mention in CRA's Outstanding Undergraduate Research Program, 2020](#)
- ◇ M-DICE: Linyun Luo, Waiting (Bruce) Li, Yingchen (Eric) Ma (April '20-)

Dissertation Committee Member

- ◇ Dolan Antenucci (advised by: Mike Cafarella)
- ◇ Nikan Chavoshi, University of New Mexico (advised by: Abdullah Mueen, now at Oracle)
- ◇ Pin-Yu Chen (advised by: Al Hero, now at IBM Watson)
- ◇ Frank Cheng (advised by: Michael Wellman)
- ◇ Srayan Datta (advised by: Eytan Adar, now at Google AI)
- ◇ Pravalika Devineni, UC Riverside (advised by: Michalis Faloutsos and Evangelos Papalexakis,

- now Research Scientist at Oak Ridge National Laboratory)
- ◇ Matthew Duschenes (advised by: Krishnakumar Garikipati)
- ◇ Hayley Falk (advised by: Mariel Lavieri and Fred Korley)
- ◇ Jeffrey Folz (advised by: Raoul Kopelman)
- ◇ Elizabeth Hou (advised by: Al Hero, Research Staff, STR, Boston MA)
- ◇ Alec Kirkley (advised by: Mark Newman – prelim committee)
- ◇ Shibamouli Lahiri (advised by: Rada Mihalcea, now Research Area Specialist Associate at the Medical School, University of Michigan)
- ◇ Tianxi Li (advised by: Liza Levina and Ji Zhu)
- ◇ Yike Liu (advised until Dec'16; later by Jieping Ye; now Senior Data Scientist at Netflix)
- ◇ Amy Nesky (advised by: Quentin Stout)
- ◇ Morteza Noshad (advised by: Al Hero)
- ◇ Jeeheh Oh (advised by: Jenna Wiens)
- ◇ Morgan Oneka (Computational Medicine and Bioinformatics Graduate Student)
- ◇ Satyaki Sikdar, University of Notre Dame (advised by: Tim Weneringer)
- ◇ Jie Song (advised by: H. V. Jagadish)
- ◇ Saba A Syouri, SUNY Binghamton University (advised by: Sarah S Lam)
- ◇ Han Xiao (advised by: Aris Gionis)
- ◇ Tianpei Xie (advised by: Al Hero, now Applied Scientist at Amazon)
- ◇ Fang-Yi Yu (advised by: Grant Schoenebeck)
- ◇ Lingxiao Zhao, Carnegie Mellon University (advised by: Leman Akoglu)

FUNDING

- ◇ **Toyota Research Institute** *Apr 2021*
'Learning from the Unseen Experience of Expert Users to Support Machine-aided Decision-making', co-PI, total: \$1,125,000; my part: \$400K
- ◇ **Faculty Research Faculty** award, Statistics RFP *July 2020*
'Persistent Activity Mining in Continually Evolving Networks'
PI, total: \$50,000
- ◇ **City of Detroit / The Knight Foundation** grant *Apr 2020*
'Managing & Analyzing Disparate Mobility-related Data Sources'
PI, total: \$430,000
- ◇ **Google Research Faculty** award *Feb 2020*
'Exploring the Potential of Neural Execution Engines as Universal Architectures'
PI, total: \$80,000
- ◇ **Precision Health Investigator** award *Jan 2020-Dec 2021*
'Characterizing and Understanding Time-varying Functional Connectivity States via Network Science and Deep Neural Networks', PI (co-I: Chandra Sripada) total: \$279,528.85
- ◇ **Qualcomm** *Sep 2019*
'Explore Graduate Studies in CSE Workshop'
PI, \$10,000 (co-PI: Valeria Bertacco)
- ◇ **Google exploreCSR** award *Aug 2019-July 2020*
'Building a Diverse Research Community: Introducing Women to Computer Science Research'
co-PI, (PI: Rada Mihalcea, co-PI: Laura Burdick) total: \$18,000
- ◇ **Rackham** Recruiting Bootcamp Grant (ReBoot) *Apr 2019-Apr 2020*
'Explore Graduate Studies in CSE Workshop'
PI, \$8,000
- ◇ **College of Engineering and CSE** *Apr 2019*
'Explore Graduate Studies in CSE Workshop'
PI, \$4,000 from CoE; \$8,000 from CSE
- ◇ **NSF CAREER** award *May 2019-Apr 2024*
'CAREER: Timely Insights: Interpretable, Multi-scale Summarization of Networks over Time'
PI, total: \$555,401
- ◇ **Adobe gift** *2019*
'User Stitching: A Representation Learning and Hashing Perspective'

- PI, total: \$10,000.
- ◇ **CoE Theme** 2019
 'Big Data Methods & Applications'
 PI, total: \$6,250 (with 26 team members working on big data topics)
 - ◇ **P&G project** Jan 2019-Dec 2020
 'Analyzing the Relation between Product Features and Consumer Preferences'.
 PI, total: \$569,957; my part: \$197,888 (co-PIs: Rada Mihalcea, David Fouhey)
 - ◇ **Amazon Research Award** 2019
 'Adaptive Personalized Knowledge Graph Summarization'.
 PI, \$80,000 + \$20,000 AWS credits
 - ◇ **UM MCubed, Classic Cube** Dec 2018 - Dec 2020
 'Crowdsourcing Adaptive Video Analysis'.
 Co-PI, total: \$60,000 (PI: Walter Lasecki; co-PI: Srinivasaraghavan Sriram)
 - ◇ **Army Research Office Young Investigator Award** Sep 2018-Aug 2021
 'A New Perspective for Fast Distributed Computations Over Networks'.
 PI, \$360,000
 - ◇ **P&G / UM Advanced Machine Learning Collaborative** Sept 2018-Aug 2021
 'Large-Scale Multimodal Analytics of Consumer Behavior'.
 Co-PI, total: \$1.5M
 - ◇ **Michigan Institute for Data Science (MIDAS):** Sept 2018-Aug 2019
 'Understanding and Mining Patterns of Audience Engagement and
 Creative Collaboration in Large-scale Crowdsourced Music Performances'.
 PI, total: \$75,000 (Co-PI: Walter Lasecki)
 - ◇ **Rackham Recruiting Bootcamp Grant (ReBoot)** Apr 2018-April 2019
 PI, \$8,000
 - ◇ **College of Engineering and CSE 'Explore Graduate Studies in CSE Workshop'** Apr 2018
 PI, \$5,000 from CoE; \$8,000 from CSE
 - ◇ **Adobe Digital Experience Research Award on 'User Stitching:
 A Representation Learning and Hashing Perspective'** Mar 2018
 PI, \$50,000
 - ◇ **IBM: Part of the 'UM-IBM Sapphire Project' on conversational systems** Jan 2018-Aug 2018
 subcontract (Total: \$4.5M; supports 1 student)
 - ◇ **Trove AI: 'Making Sense of Communication-based Social Graphs'** Aug 2017-Aug 2019
 PI, \$309,877
 - ◇ **NSF: 'EAGER: Collaborative Research' (total: \$100,000; UM: \$50,000)** Aug 2017-Jul 2018
 'Correspondence Discovery in Disparate Networks'
 - ◇ **Microsoft: Azure Research Award (PI: \$20,000)** July 2017-July 2018
 - ◇ **Amazon: AWS Cloud Credits for Research (PI: \$3,000)** May 2017-March 2018
 - ◇ **Intel: Server Hardware Donation (~\$5,500)** Oct 2016
 - ◇ **Michigan: New Faculty Fellowship (\$3,000)** Sep 2016
 - ◇ **Michigan: Center of Research on Learning and Teaching:
 Teaching Grant (\$1,000)** Jan 2016
 - ◇ **Michigan, UROP: Supplementary Research Funding** Sep 2015-May 2016
 for advising two undergraduate students (\$1,208).
 - ◇ **Amazon: AWS in Education Grant (\$1,800)** Sep 2015
- Contributed to writing:
- ◇ NSF Proposal "Know Thy Enemy: Data Mining Meets Networks for Understanding Web-Based
 Malware Dissemination", NSF (Award #1314603), **\$1.0M** total. 2013-2017
 - ◇ Lawrence Livermore National Laboratory Subcontract, **\$30k**.
 "Quantifying Network Changes" June-Sep 2013
 - ◇ White paper on Social Networking. May 2012
 - ◇ Participated in **DARPA's \$35 million project** Anomaly Detection at Multiple Scales (ADAMS)
 with ultimate goal to detect insider threats in the military. 2012-2013

INVITED TALKS
AND KEYNOTES

77. *To Trust or Not To Trust? Evaluation Methodology and Benchmarks for Embedding-based Knowledge Graph Completion*
14th Workshop on Graph-Based Natural Language Processing (TextGraphs-14), COLING Dec 2020
76. *Representation Learning Beyond Homophily and Proximity*
NetSci'20 Satellite: Statistical Inference for Network Models Sep 2020
75. *Large-scale Graph Mining: Network Summarization and Beyond*
5th International Summer School on Data Science (SSDS), Croatia Sep 2020
74. *The Power of Summarization in Network Analysis*
16th International Workshop on Mining and Learning with Graphs (MLG)
ACM SIGKDD Conference on Knowledge Discovery and Data Mining Aug 2020
73. *The Power of Summarization in Network Representation Learning (and beyond)*
Graph Exploitation Symposium, Dedham, Massachusetts Canceled
72. *GCNs: From Summarization to Heterophily*
ICML 2020 Workshop on Graph Representation Learning and Beyond (GRL+) July 2020
71. *The Power of Summarization in Network Representation Learning (and beyond)*
SIAM Conference on Discrete Mathematics (DM) TBD covid-19
70. *The Power of Summarization in Network Representation Learning (and beyond)*
SIAM Mathematics of Data Science Conference (MDS) June 2020
69. *Efficient Structural Embeddings in Large-scale Networks*
Tsinghua University Nov 2019
68. *The Power of Summarization in Network Representation Learning*
Institute of Computing Technology, Chinese Academy of Sciences Nov 2019
67. *The Power of Summarization in Representation Learning*
Great Lakes Workshop on Data Science, Notre Dame University Sep 2019
66. *Efficient Structural Embeddings in Large Time-varying Networks*
3rd International Workshop on Advances in Managing and Mining Large Evolving Graphs (LEG)
European Conf. on Principles and Practice of Knowledge Discovery in Databases (PKDD) Sep 2019
65. *Mining Large-Scale Network Data*
Annual Bioinformatics Kickoff, University of Michigan Aug 2019
64. *Evaluation Challenges in Network Analysis*
2nd Workshop on Offline and Online Evaluation of Interactive Systems
ACM SIGKDD Conference on Knowledge Discovery and Data Mining Aug 2019
63. *Efficient Structural Embeddings in Large-scale Networks*
Pacific Northwest National Laboratory June 2019
62. *Interpretable Neural Network-based Classification of Limited, Noisy Brain Data*
3rd Midwest Machine Learning Symposium June 2019
61. *Inference, summarization, and interpretation of noisy network data*
Machine Learning in Network Science, NetSci Sattelite May 2019
60. *(Pocket-size) Structural Embeddings in Large-scale Networks*
Dynamics On and Of Complex Networks workshop series
DOOCN-XII: Network Representation Learning May 2019
59. *Pocket-size Structural Embeddings in Large-scale Networks*
Not Another Big Data Conference, Ann Arbor (by Criteo Labs) May 2019
58. *Pocket-size Structural Embeddings in Large-scale Networks*
Deep Learning for Graphs wrkshp, SIAM International Conference on Data Mining (SDM) May 2019
57. *Fast Inference and Mining of Functional Brain Networks*
Michigan Integrated Center for Health Analytics and Medical Prediction (MiCHAMP) April 2019
56. *Research as Career panel*
'Explore CS Research' program, University of Michigan (led by Rada Mihalcea) April 2019

55. *Mining Large-Scale Network Data*
Women in Big Data at Michigan Symposium, Ann Arbor November 2018
54. *Mining Large-Scale Network Data*
AI Symposium, University of Michigan, Ann Arbor November 2018
53. *Representation Learning-based Graph Alignment*
56th Annual Allerton Conference on Communication, Control and Computing October 2018
52. *Inferring, Summarizing and Mining Large-scale Graph Data*
Explore Graduate Studies in Computer Science and Engineering
University of Michigan, Ann Arbor September 2018
51. *From scalable inference of networks to inference over networks*
Google, Mountain View June 2018
50. *From scalable inference of networks to inference over networks*
Amazon, Palo Alto June 2018
49. *Inferring, Summarizing and Mining Large-scale Graph Data*
Dagstuhl Seminar, "High-Performance Graph Algorithms", Germany June 2018
48. Junior Faculty Panel
Preparing Future Faculty seminar, Center of Research on Learning and Teaching (CRLT)
University of Michigan May 2018
47. *Scalable Inference and Summarization of Multi-source Network Data*
Graph Exploitation Symposium, Dedham, Massachusetts April 2018
46. *Inferring, Summarizing and Mining Multi-source Graph Data*
Corelab, Electrical and Computer Engineering, National Technical University of
Athens, Greece Dec 2017
45. *Inferring, Summarizing and Mining Multi-source Graph Data*
"Athena" Research and Innovation Center in Information, Communication and
Knowledge Technologies, Information Management Systems Institute (IMSI), Greece Dec 2017
44. *Inferring, Summarizing and Mining Multi-source Graph Data*
Management of Data, Information, and Knowledge (MADgIK) Group of the Dept of
Informatics & Telecommunications of the University of Athens, Greece Dec 2017
43. *Inferring, Summarizing and Mining Multi-source Graph Data*
ICDM High Performance Graph Data Mining and Machine Learning
workshop (HPGDML'17) Nov 2017
42. *Inferring and Summarizing Large-scale Graph Data*
NSF-sponsored workshop on Machine Learning for Discovery Science, Armenia Oct 2017
41. *Inferring, Summarizing and Mining Large-scale Graph Data*
University of Michigan, Ann Arbor. MIDAS seminar. May 2017
40. *Exploring Large-Scale Graph Data.*
University of Michigan, Ann Arbor. Quicken Loans. February 2017
39. *Summarizing Large Static and Time-evolving Graphs.*
Hasso Plattner Institute, Berlin November 2016
38. *Mining large-scale graphs.*
Explore Graduate Studies in Computer Science and Engineering
University of Michigan, Ann Arbor October 2016
37. *Mining Large-scale Graphs (tutorial).*
BIRS Workshop on Models and Algorithms for Crowds and Networks
Oaxaca, Mexico August 2016
36. *Exploring and Understanding Large Graphs*
SIGKDD 2016 Dissertation Presentation, CA August 2016
35. *Studies of Brain Networks and Creativity.*
The Origins and Future of Pattern Processing and Intelligence:
From Brains to Machines, AZ. March 2016

34. *Summarizing and Understanding Large, Static and Dynamic Graphs.*
Santa Fe Institute, New Mexico. December 2015
33. *Exploring and Understanding Large, Static and Dynamic Graphs.*
Toyota AI Seminar, University of Michigan, Ann Arbor. October 2015
32. *What's in my data? Fast, principled algorithms for exploring large graphs*
Special Session, ASMDA'15, Piraeus, Greece. July 2015
31. *What's in my data? Fast, principled algorithms for exploring large graphs*
Cognitive Science Department, UC San Diego. May 2015
30. *What's in my data? Fast, principled algorithms for exploring large graphs*
Tableau Research, Seattle. May 2015
29. *What's in my data? Fast, principled algorithms for exploring large graphs*
Computer Science Department, Cornell University. April 2015
28. *What's in my data? Fast, principled algorithms for exploring large graphs*
Department of Computer Science, Univeristy of Toronto. April 2015
27. *What's in my data? Fast, principled algorithms for exploring large graphs*
Department of Computer Science, Purdue University. April 2015
26. *What's in my data? Fast, principled algorithms for exploring large graphs*
Computational Science & Engineering, Georgia Tech. April 2015
25. *What's in my data? Fast, principled algorithms for exploring large graphs*
Department of Computer Science, USC. April 2015
24. *What's in my data? Fast, principled algorithms for exploring large graphs*
Computer Science and Engineering, UC San Diego. April 2015
23. *What's in my data? Fast, principled algorithms for exploring large graphs*
Computer Science and Engineering, EECS, University of Michigan, Ann Arbor. March 2015
22. *What's in my data? Fast, principled algorithms for exploring large graphs*
College of Computer and Information Science, Northeastern University. March 2015
21. *What's in my data? Fast, principled algorithms for exploring large graphs*
Creative Technologies Lab, Adobe Research, San Francisco/Seattle. March 2015
20. *What's in my data? Fast, principled algorithms for exploring large graphs*
Algorithms Research Group, Google Research, New York. March 2015
19. *What's in my data? Fast, principled algorithms for exploring large graphs*
Tepper School of Business, CMU. March 2015
18. *What's in my data? Fast, principled algorithms for exploring large graphs*
Computer Science and Engineering, Ohio State University. February 2015
17. *What's in my data? Fast, principled algorithms for exploring large graphs*
Department of Computer Science, University of Pittsburgh. February 2015
16. *What's in my data? Fast, principled algorithms for exploring large graphs*
Department of Computer Science, Dartmouth College. February 2015
15. *Large Graph Mining and Sense Making by Comparison and Summarization.*
MLconf, Atlanta. September 2014
14. *VoG: Summarizing and Understanding Large Graphs.*
HDMS, Athens, Greece. July 2014
13. *MovieDesign: How to capture this audience?*
Technicolor, Los Altos. July 2014
12. *Understanding Large Networked Data: Summarization and Similarities.*
Microsoft Research, Redmond. July 2014
11. *Graph Understanding: Similarities and Summarization.*
Stanford University. May 2014
10. *Large Graph Mining and Sense-making.* [Thesis proposal]
Carnegie Mellon University. March 2014

9. *BiG-Align: Fast Bipartite Graph Alignment.*
CMU/Pitt Joint DB Monthly Meetup, University of Pittsburgh. February 2014
8. *Do external events burst your filter bubble?*
Microsoft Research, Redmond. August 2013
7. *Unifying Guilt-by-Association Approaches and Future Directions.*
Speaking Skills Talk, SCS Student Seminar Series, CMU. May 2013
6. *DeltaCon: A Principled Massive-Graph Similarity Function.*
Database Seminar, CMU. April 2013
5. *Patterns amongst Competing Tasks: Super-Linearities, and the Almond-DG model.*
Database Seminar, CMU. April 2013
4. *A scalable approach to size-independent network similarity.*
Database Seminar, CMU. September 2012
3. *FBI-Match: Fast Bipartite Graph Matching.*
IBM Watson. August 2012
2. *Unifying Guilt-by-Association Approaches: Theorems and Fast Algorithms.*
University of Maryland. March 2012
1. *Unifying Guilt-by-Association Approaches: Theorems and Fast Algorithms.*
University of Athens, Greece. Jan. 2012

EXTERNAL
SERVICE

Program Committees

- ◇ Senior Program Committee member (SPC or Area Chair)
 - ◇ AAAI Conference on Artificial Intelligence 2020
 - ◇ ACM International Conference on Knowledge Discovery and Data Mining (KDD) 2020, 2021
 - ◇ ACM International Conference on Web Search and Data Mining (WSDM) 2020, 2021
 - ◇ SIAM International Conference on Data Mining (SDM) 2019, 2020, 2021
 - ◇ Annual Conference of the Association for Computational Linguistics (ACL) 2020
 - ◇ IEEE International Conference on Data Science and Advanced Analytics (DSAA) 2019
 - ◇ The Web Conference (WWW) 2018
 - ◇ ACM International Conference on Information and Knowledge Management (CIKM) 2017
- ◇ Program Committee (PC) member
 - ◇ The Web Conference (WebConf / formerly WWW) 2012-2014, 2016, 2017, 2019, 2020, 2021
 - ◇ ACM Intl Conference on Knowledge Discovery and Data Mining (KDD) 2016, 2018, 2019
 - ◇ SIAM International Conference on Data Mining (SDM) 2017, 2018
 - ◇ ACM International Conference on Web Search and Data Mining (WSDM) 2017, 2018, 2019
 - ◇ AAAI Conference on Artificial Intelligence 2013, 2016, 2018, 2019
 - ◇ European Conference on Machine Learning and Principles and Practice of Knowledge Discovery in Databases (PKDD) 2016, 2017, 2018, 2019
 - ◇ SIAM Workshop on Network Science 2020
 - ◇ IEEE International Conference on Data Engineering (ICDE) PhD Symposium 2019
 - ◇ Conference on Complex Networks and their Applications 2017, 2018
 - ◇ Hellenic Data Management Symposium (HDMS) 2017
 - ◇ ACM/IEEE Advances in Social Network Analysis and Mining (ASONAM) 2016
 - ◇ IEEE International Conference on Data Mining (ICDM) demos 2014, 2015, 2016
 - ◇ IEEE International Conference on Data Mining (ICDM) PhD Forum 2016, 2017
 - ◇ Intl. Workshop on Big Data Visual Exploration and Analytics (BigVis 2018, in conjunction with EDBT/ICDT) 2018
 - ◇ MLG (ACM KDD Workshop on Mining and Learning with Graphs) 2016, 2020
 - ◇ IDEA (ACM KDD Workshop on Interactive Data Exploration and Analytics) 2015, 2016, 2017
 - ◇ BGM (WWW Workshop on Big Graph Mining) 2014

Journal Reviewer

- ◇ Transactions on Knowledge Discovery from Data (TKDD, ACM) 2014-2020
- ◇ Computing Surveys (CSUR, ACM) 2019

- ◇ Data Mining and Knowledge Discovery (DAMI, Springer) 2013-2019
- ◇ Scientific Reports 2019-2020
- ◇ Knowledge and Information Systems (KAIS, Springer) 2012-2018
- ◇ Transactions on Knowledge and Data Engineering (TKDE, IEEE) 2015-2017
- ◇ Signal Processing Letters (SPL, IEEE) 2014, 2015
- ◇ Data and Information Quality (JDIQ, ACM) 2015-2017
- ◇ Discrete Applied Mathematics (Elsevier) 2016

Leading Roles

- ◇ Associate Editor, ACM TKDD Journal 2017-2021
- ◇ Secretary of the SIAM Activity Group on Data Science 2021
- ◇ Co-organizer of Graph Learning Benchmarks (GLB @ WebConf) workshop 2021
- ◇ Program Director of the SIAM Activity Group on Data Mining and Analytics (elected) 2018-2020
- ◇ Steering Committee Member, UM/P&G AI Collaborative 2019-2020
- ◇ Co-chair, ACM Intl Conference on Knowledge Discovery and Data Mining (KDD) 2019, 2020
Tutorials
- ◇ Co-chair, SIAM Intl Conference on Data Mining (SDM) Tutorials 2020
- ◇ Co-chair, ACM Intl Conference on Web Search and Data Mining (WSDM) 2020
Doctoral Consortium
- ◇ SIGKDD Dissertation Award Committee 2017, 2020
- ◇ Co-chair, ECML/PKDD Awards 2020
- ◇ Program co-chair, Graph Architectures, Programming & Learning (GrAPL'20) workshop 2020
co-located with International Parallel and Distributed Processing Symposium (IPDPS'20)
- ◇ Co-organizer of the Workshop on Mining and Learning with Graphs (MLG @ KDD) 2016-2019
- ◇ Guest editor for 'Machine Learning with Graphs' Special Issue, 2018-2019
Applied Network Science journal, Springer
- ◇ SDM Best Paper Award Committee 2019
- ◇ Co-chair, Special session at International Conference on Artificial Neural Networks 2019
(ICANN), 'Machine Learning with Graphs: Algorithms and Applications '
- ◇ Co-chair, ACM CIKM Demos, Beijing 2019
- ◇ Editorial Board Member of Data Mining and Knowledge Discovery (DAMI, Springer) 2017-2019
- ◇ Co-chair, IEEE ICDM Demos, Singapore 2018
- ◇ Co-chair, ACM KDD Cup, Halifax, Canada 2017
- ◇ Co-chair, IEEE ICDM Ph.D. Forum, New Orleans 2017
- ◇ Publicity co-chair of SIAM SDM, Houston 2017
- ◇ Secretary of the SIAM Activity Group on Data Mining and Analytics (elected) 2016-2017

Government and other Panels / Reviews

- ◇ CRA/CCC Computing Innovation Fellows Program, Reviewer 2020
- ◇ NSF Proposals Panel 2017-2020
- ◇ NSF/NIH Proposals Panel 2016
- ◇ Army Research Office (ARO) Proposals Reviewer 2017, 2019
- ◇ NSERC Proposal Reviewer 2020

INTERNAL
SERVICE

- ◇ Graduate Program Committee, CSE, University of Michigan 2020-2021
- ◇ MIDAS Education and Training Committee 2020-2021
- ◇ External Recruitment Committee, CSE, University of Michigan 2020-2021
- ◇ CSE ExCom (elected), CSE, University of Michigan 2019-2020
- ◇ Program Committee member for MIDAS Annual Symposium 2019, 2020
- ◇ External Recruitment Chair, CSE, University of Michigan 2018-2020
- ◇ CSE Graduate Admissions Committee, University of Michigan 2017-2019
- ◇ Reviewer for UM internal competition for NSF calls 2019
- ◇ Reviewer for MIDAS Annual Symposium 2018
- ◇ DS Undergraduate Honors and Awards (Chair), University of Michigan 2017-2018
- ◇ Data Science Program Committee, University of Michigan 2015-2018

	◇ Data Science Undergraduate Advising, University of Michigan	2015-2017
	◇ ECSEL Committee, University of Michigan (outreach)	2016-2017, 2020-2021
	◇ Served on the CSD Admissions Committee, CMU	2014
	◇ Student Volunteer for CS Open House, CMU	2011-2014
DEI AND OUTREACH	◇ Mentor, Women in Machine Learning (WiML) workshop	2021
	◇ MIDAS Data Science Summer Camp for High School Students	2019, 2020
	◇ Founder, Michigan Data-Informed Cities for Everyone (M-DICE) project group working on mobility challenges (in collaboration with the City of Detroit & WEF)	2020
	◇ CS KickStart program: lab tour aims to improve the enrollment and persistence of women in the UM CS program	2019
	◇ 'Explore Graduate Studies in CSE Workshop Series' (lead organizer) University of Michigan	2018, 2019
	◇ <i>Research as Career</i> panel 'Explore CS Research' program, University of Michigan (led by Rada Mihalcea)	April 2019
	◇ Research Mentor 'Explore CS Research' program, University of Michigan	2018-2019
	◇ Mentor, Introduced the idea of 'Prelim Practice Talks' ran by the Ensemble of CSE Ladies (ECSEL), University of Michigan	2018
	◇ Faculty Advisor, MDST (Michigan Data Science Team), University of Michigan	2018-
	◇ Project leader and instructor at Big Data Summer Institute (undergraduate summer program), University of Michigan	2018
	◇ Research mentor for the Machine Learning team (12 students) Big Data Summer Institute (undergraduate program), University of Michigan	Jun-Jul 2018
	◇ Lectures on unsupervised machine learning Big Data Summer Institute (undergraduate program), University of Michigan	2018
	◇ Lecture at Sports Analytics Summer Camp, part of the Exercise and Sports Science Initiative (ESSI), University of Michigan	2018
	◇ Panelist at 'Preparing Future Faculty seminar' <i>Nationally-recognized, month-long program that prepares advanced graduate students for academic careers</i>	2018
	◇ Speaker at 'Amaizin' Blue Preview Seminar Series' for admitted freshman class University of Michigan	2018
	◇ Faculty Mentor, MDST (Michigan Data Science Team), University of Michigan	2017, 2018
	◇ Faculty Mentor, MSAIL (a student-run, MIDAS-affiliated reading group on Machine Learning), University of Michigan	2017, 2018
	◇ Ensemble of CSE Ladies (ECSEL) Committee, University of Michigan	2016, 2017
	◇ (Informal) mentor of the group	2018
	◇ 'Explore Graduate Studies in CSE Workshop Series' (panelist), University of Michigan	2016
PROFESSIONAL MEMBERSHIPS	◇ IEEE Computer Society	2014-
	◇ IEEE Special Community for Big Data	2014-
	◇ IEEE Special Community for Knowledge and Data Engineering	2014-
	◇ Association of Computing Machinery (ACM)	2014-
	◇ Society for Industrial and Applied Mathematics (SIAM)	2014-
	◇ SIAG on Data Mining and Analytics Membership	2014-
	◇ SIAG on Optimization Membership	2014, 2015
	◇ Member of Graduates' Union of Filekpedeutiki Society	2005 -
LANGUAGES	◇ Greek: native language	
	◇ English: fluent, Proficiency of Cambridge, Proficiency of Michigan, TOEFL (115/120)	
	◇ French: Diplôme d'Études en Langue Française du 1er et 2nd degré (European Levels A1, A2,	

B1, B2)

◇ **Spanish:** Diploma de Español (Nivel Inicial - B1)

REFERENCES

Upon Request.