

# NEIL SHAH

Principal Research Scientist, Senior Manager  
Snap Inc.  
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## EDUCATION

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- **Ph.D:** Computer Science, Carnegie Mellon University, August 2013 - October 2017  
Advisor: Prof. Christos Faloutsos.
- **M.S:** Computer Science, Carnegie Mellon University, August 2013 - May 2017
- **B.S:** Computer Science (Minor in Mathematics), North Carolina State University, August 2010 - May 2013  
GPA: **4.0** (class rank #1), *Summa Cum Laude with Honors*

## POSITIONS

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- **Snap Inc.**, Principal Research Scientist, Senior Manager.  
I lead a team of research scientists, engineers and interns on academic, applied research and engineering initiatives in user modeling and personalization.  
December 2017 - present
- **Carnegie Mellon University**, Graduate Researcher.  
I worked in the Computer Science Department, on algorithms and applications for anomaly detection in large social graphs.  
August 2013 - October 2017
- **Twitch**, Visiting Researcher.  
I worked on anti-abuse technologies as a member of the Science team.  
January 2016 - May 2016
- **Microsoft Research - Redmond**, Research Intern.  
I worked on improving metrics and methods for measuring research impact for Microsoft Academic Search.  
June 2015 - August 2015
- **Lawrence Livermore National Laboratory**, Research Intern.  
I worked on developing algorithms to automatically identify patterns and anomalies in time-evolving graphs.  
June 2014 - August 2014
- **IBM - Silicon Valley**, Software Intern.  
I worked in the IBM BigInsights group, with a focus on indexing and analytics of system log data.  
May 2012 - January 2013
- **North Carolina State University**, Undergraduate Researcher.  
I worked in the Department of Computer Science on compressing and indexing large scientific datasets.  
June 2009 - April 2013

## AWARDS & DISTINCTIONS

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- North Carolina State University Department of Computer Science Rising Star Award, 2023
- ACM WSDM Outstanding Service Award, 2022
- ACM SIGCHI Best Research Paper Honorable Mention Award, 2019
- Symantec Graduate Research Fellowship Finalist, 2017
- ACM SIGKDD Best Research Paper Award, 2016
- National Science Foundation Graduate Research Fellowship, 2013
- North Carolina State University College of Engineering Senior Award for Scholarly Achievement, 2013
- North Carolina State University Department of Computer Science Senior Faculty Scholar, 2012

- National Science Foundation Research Experience for Undergraduates Grant, 2011
- North Carolina State University College of Engineering Dean’s Research Assistantship, 2011
- North Carolina State University Caldwell Fellowship, 2011
- Coca-Cola Scholarship, 2010
- Zinch Scholarship, 2010
- National Merit Scholarship, 2010
- CompTIA Information Technology Merit Award, 2010
- 2nd place, National Siemens Competition in Math, Science and Technology, 2009
- 1st place, Regional Siemens Competition in Math, Science and Technology, 2009

## PUBLICATIONS

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### Refereed Conference Publications

64. Juanhui Li, Harry Shomer, Haitao Mao, Shenglai Zeng, Yao Ma, Neil Shah, Jiliang Tang, Dawei Yin. *Evaluating Graph Neural Networks for Link Prediction: Current Pitfalls and New Benchmarking*, NeurIPS 2023.
63. Haitao Mao, Zhikai Chen, Wei Jin, Haoyu Han, Yao Ma, Tong Zhao, Neil Shah, Jiliang Tang. *Demystifying Structural Disparity in Graph Neural Networks: Can One Size Fit All?*, NeurIPS 2023.
62. Mingxuan Ju, Tong Zhao, Wenhao Yu, Neil Shah, Fanny Ye. *GraphPatcher: Mitigating Degree Bias for Graph Neural Networks via Test-time Node Patching*, NeurIPS 2023.
61. William Shiao, Uday Singh Saini, Yozen Liu, Tong Zhao, Neil Shah, Evangelos Papalexakis. *CARL-G: Clustering-Accelerated Representation Learning on Graphs*, KDD 2023.
60. Siddharth Bhatia, Mohit Wadhwa, Kenji Kawaguchi, Neil Shah, Philip S. Yu, Bryan Hooi. *Sketch-based Anomaly Detection in Streaming Graphs*, KDD 2023.
59. Zhichun Guo, William Shiao, Shichang Zhang, Yozen Liu, Nitesh Chawla, Neil Shah, Tong Zhao. *Linkless Link prediction via Relational Distillation*, ICML 2023.
58. Jiahui Shi, Vivek Chaurasiya, Yozen Liu, Shubham Vij, Yan Wu, Satya Kanduri, Neil Shah, Peicheng Yu, Nik Srivastava, Lei Shi, Ganesh Venkataraman, Jun Yu. *Embedding-based Retrieval in Friend Recommendation*, SIGIR 2023.
57. Juanhui Li, Harry Shomer, Jiayuan Ding, Yiqi Wang, Yao Ma, Neil Shah, Jiliang Tang, Dawei Yin. *Are Message Passing Neural Networks Really Helpful for Knowledge Graph Completion?*, ACL 2023.
56. Xiaotian Han, Tong Zhao, Yozen Liu, Xia Hu, Neil Shah. *MLPnit: Embarrassingly Simple GNN Training Acceleration with MLP Initialization*, ICLR 2023.
55. Mingxuan Ju, Tong Zhao, Qianlong Wen, Wenhao Yu, Neil Shah, Yanfang Ye, Chuxu Zhang. *Multi-task Self-supervised Graph Neural Networks Enable Stronger Task Generalization*, ICLR 2023.
54. William Shiao, Zhichun Guo, Tong Zhao, Vagelis Papalexakis, Yozen Liu, Neil Shah. *Link Prediction with Non-Contrastive Learning*, ICLR 2023.
53. Wei Jin, Tong Zhao, Jiayuan Ding, Yozen Liu, Jiliang Tang, Neil Shah. *Empowering Graph Representation Learning with Test-Time Graph Transformation*, ICLR 2023.
52. Yiwei Wang, Bryan Hooi, Yozen Liu, Tong Zhao, Zhichun Guo, Neil Shah. *Flashlight: Scalable Link Prediction with Effective Decoders*, LoG 2023.
51. Yiwei Wang, Bryan Hooi, Yozen Liu, Neil Shah. *Graph Explicit Neural Networks: Explicitly Encoding Graphs for Efficient and Accurate Inference*, WSDM 2023.
50. Shichang Zhang, Yozen Liu, Neil Shah, Yizhou Sun. *Explaining Graph Neural Networks with Structure-Aware Cooperative Games*, NeurIPS 2022.
49. Lingxiao Zhao, Louis Härtel, Neil Shah, Leman Akoglu. *A Practical, Progressively Expressive Graph Neural Network*, NeurIPS 2022.
48. Yu Wang, Yuying Zhao, Neil Shah, Tyler Derr. *Imbalanced Graph Classification via Graph-of-Graph Neural Networks*, CIKM 2022.
47. Raiyan Baten, Yozen Liu, Heinrich Peters, Francesco Barbieri, Neil Shah, Leonardo Neves, Maarten Bos. *Predicting Future Location Categories of Users in a Large Social Platform*, ICWSM 2023.

46. Julie Jiang, Nils Murrugarra-Llerena, Maarten Bos, Yozen Liu, Neil Shah, Leonardo Neves, Francesco Barbieri. *Sunshine with a Chance of Smiles: How does Weather Impact Sentiment on Social Media?*, ICWSM 2022.
45. Shichang Zhang, Yozen Liu, Yizhou Sun, Neil Shah. *Graph-less Neural Networks: Teaching Old MLPs new Tricks via Distillation*, ICLR 2022.
44. Wei Jin, Lingxiao Zhao, Shichang Zhang, Yozen Liu, Jiliang Tang, Neil Shah. *Graph Condensation for Graph Neural Networks*, ICLR 2022.
43. Lingxiao Zhao, Wei Jin, Leman Akoglu, Neil Shah. *From Stars to Subgraphs: Uplifting any GNN with Local Structure Awareness*, ICLR 2022.
42. Yao Ma, Xiaorui Liu, Neil Shah, Jiliang Tang. *Is Homophily a Necessity for Graph Neural Networks?*, ICLR 2022.
41. Wei Jin, Xiaorui Liu, Xiaoyu Zhao, Yao Ma, Neil Shah, Jiliang Tang. *Automated Self-Supervised Learning for Graphs*, ICLR 2022.
40. Xianfeng Tang, Yozen Liu, Xinran He, Suhang Wang, Neil Shah. *Ranking Friend Stories on Social Platforms with Edge-Contextual Local Graph Convolutions*, WSDM 2022.
39. Satyaki Sikdar, Neil Shah, Tim Weninger. *Attributed Graph Modeling with Vertex Replacement Grammars*, WSDM 2022.
38. Hyeonjeong Shin, Taehyung Kwon, Neil Shah, Kijung Shin. *Finding a Concise, Precise and Exhaustive Set of Near Bi-Cliques in Dynamic Graphs*, WSDM 2022.
37. Tong Zhao, Bo Ni, Wenhao Yu, Zhichun Guo, Neil Shah, Meng Jiang. *Action Sequence Augmentation for Early Graph-based Anomaly Detection*, CIKM 2021.
36. Yao Ma, Xiaorui Liu, Tong Zhao, Yozen Liu, Jiliang Tang, Neil Shah. *A Unified View on Graph Neural Networks as Graph Signal Denoising*, CIKM 2021.
35. Ekta Gujral, Leonardo Neves, Evangelos Papalexakis, Neil Shah. *Niche Detection in User Content Consumption Data*, CIKM 2021.
34. Shubhranshu Shekhar, Neil Shah, Leman Akoglu. *FairOD: Fairness-aware Outlier Detection*, AIES 2021.
33. Qi Yang, Weinan Wang, Lucas Pierce, Rajan Vaish, Xiaolin Shi, Neil Shah. *Online Communication Shifts in the Midst of the Covid-19 Pandemic: A Case Study on Snapchat*, ICWSM 2021.
32. Farhan Asif Chowdhury, Yozen Liu, Koustuv Saha, Nicholas Vincent, Leonardo Neves, Neil Shah, Maarten Bos. *CEAM: The Effectiveness of Cyclic and Ephemeral Attention Models of User Behavior on Social Platforms*, ICWSM 2021.
31. Aravind Sankar, Yozen Liu, Jun Yu, Neil Shah. *Graph Neural Networks for Friend Ranking in Large-scale Social Platforms*, WWW 2021.
30. Koustuv Saha, Yozen Liu, Nicholas Vincent, Farhan Asif Chowdhury, Leonardo Neves, Neil Shah, Maarten Bos. *AdverTiming Matters: Examining User Ad Consumption for Effective Ad Allocations on Social Media*, CHI 2021.
29. Tong Zhao, Yozen Liu, Leonardo Neves, Oliver Woodford, Meng Jiang, Neil Shah. *Data Augmentation for Graph Neural Networks*, AAAI 2021.
28. Brihi Joshi, Francesco Barbieri, Neil Shah, Leonardo Neves. *The Devil is in the Details: Evaluating Limitations of Transformer-based Methods for Granular Tasks*, COLING 2020.
27. Parisa Kaghazgaran, Maarten Bos, Leonardo Neves, Neil Shah. *Social Factors in Closed-Network Content Consumption*, CIKM 2020.
26. Sara Abdali, Rutuja Gurav, Siddharth Menon, Daniel Fonseca, Negin Entezari, Neil Shah, Evangelos Papalexakis. *Identifying Misinformation from Website Screenshots*, ICWSM 2021.
25. Sara Abdali, Neil Shah, Evangelos Papalexakis. *Semi-Supervised Multi-aspect Misinformation Detection with Hierarchical Joint Decomposition*, ECML-PKDD 2020.
24. Xianfeng Tang, Yozen Liu, Neil Shah, Xiaolin Shi, Prasenjit Mitra, Suhang Wang. *Knowing your FATE: Friendship, Action and Temporal Explanations for User Engagement Prediction on Social Apps*, KDD 2020.
23. Neil Shah. *FARE: Schema-Agnostic Anomaly Detection in Social Event Logs*, DSAA 2019.
22. Hamed Nilforoshan, Neil Shah. *SliceNDice: Mining Suspicious Multi-attribute Entity Groups with Multi-view Graphs*, DSAA 2019.
21. Hemank Lamba, Neil Shah. *Modeling Dwell Time Engagement on Visual Multimedia*, KDD 2019.
20. Hana Habib, Neil Shah, Rajan Vaish. *Impact of Contextual Factors on Public Snapchat Sharing*, CHI 2019. **Best Paper Honorable Mention Award**.
19. Shreya Jain, Dipankar Niranjan, Hemank Lamba, Neil Shah, Ponnurangam Kumaraguru. *Characterizing and*

- Detecting Livestreaming Chatbots*, ASONAM 2019
18. Gisel Batista Guacho, Sara Abdali, Neil Shah, Evangelos Papalexakis. *Semi-Supervised Content-based Detection of Misinformation via Tensor Embeddings*, ASONAM 2018.
  17. Nikhil Gupta, Dhivya Eswaran, Neil Shah, Leman Akoglu, Christos Faloutsos. *Beyond Outlier Detection: Look-Out for Pictorial Explanation*, ECML-PKDD 2018.
  16. Neil Shah, Hemank Lamba, Alex Beutel and Christos Faloutsos. *The Many Faces of Link Fraud*, ICDM 2017.
  15. Da-Cheng Juan, Neil Shah, Mingyu Tang, Zhiliang Qian, Diana Marculescu, Christos Faloutsos. *M3A: Model, MetaModel, and Anomaly Detection in Web Searches*, DSAA 2017.
  14. Neil Shah. *FLOCK: Combating Astroturfing on Livestreaming Platforms*, WWW 2017.
  13. Bryan Hooi, Hyun Ah Song, Alex Beutel, Neil Shah, Kijung Shin, Christos Faloutsos. *FRAUDAR: Bounding Graph Fraud in the Face of Camouflage*, KDD 2016. **Best Paper Award.**
  12. Bryan Hooi, Neil Shah, Alex Beutel, Stephan Gunnemann, Leman Akoglu, Mohit Kumar, Disha Makhija, Christos Faloutsos. *BIRDNEST: Bayesian Inference for Ratings-Fraud Detection*, SDM 2016.
  11. Neil Shah, Danai Koutra, Tianmin Zou, Brian Gallagher, Christos Faloutsos. *TimeCrunch: Interpretable Dynamic Graph Summarization*, KDD 2015.
  10. Maria Giatsoglou, Despoina Chatzakou, Neil Shah, Alex Beutel, Stephan Guenneman, Christos Faloutsos, Athena Vakali. *ND-Sync: Detecting Synchronized Fraud Activities*, PAKDD 2015.
  9. Maria Giatsoglou, Despoina Chatzakou, Neil Shah, Christos Faloutsos, Athena Vakali. *Retweeting Activity on Twitter: Signs of Fraud*, PAKDD 2015.
  8. Neil Shah, Alex Beutel, Brian Gallagher, Christos Faloutsos. *Spotting Suspicious Link Behavior with fBox: An Adversarial Perspective*, ICDM 2014.
  7. Neil Shah, Eric Schendel, Saurabh Pendse, Sriram Lakshminarasimhan, Terry Rogers, Nagiza Samatova. *Improving I/O Throughput with PRIMACY: Preconditioning ID-Mapper for Compressing Incompressibility*, CLUSTER 2012.
  6. Eric Schendel, Ye Jin, Neil Shah, Jackie Chen, Choong-Seock Chang, Seung-Hoe Ku, Stephane Ethier, Scott Klasky, Robert Latham, Robert Ross, Nagiza Samatova. *ISOBAR Preconditioner for Effective and High-throughput Lossless Data Compression*, ICDE 2012.
  5. Isha Arkatkar, John Jenkins, Sriram Lakshminarasimhan, Neil Shah, Eric Schendel, Stephane Ethier, Choong-Seock Chang, Jackie Chen, Hemant Kolla, Scott Klasky, Robert Ross, Nagiza Samatova. *Analytics-driven Lossless Data Compression for Rapid In-situ Indexing, Storing and Querying*, DEXA 2012.
  4. Ye Jin, Sriram Lakshminarasimhan, Neil Shah, Zhenhuan Gong, Choong-Seock Chang, Jackie Chen, Stephane Ethier, Hemant Kolla, Seung-Hoe Ku, Scott Klasky, Robert Latham, Robert Ross, Karen Schuchardt, Nagiza Samatova. *S-preconditioner for Multi-fold Data Reduction with Guaranteed User-controlled Accuracy*, ICDM 2011.
  3. Sriram Lakshminarasimhan, Neil Shah, Stephane Ethier, Scott Klasky, Robert Latham, Robert Ross, Nagiza Samatova. *Compressing the Incompressible with ISABELA: In-situ Reduction of Spatio-Temporal Data*, EuroPar 2011.
  2. Neil Shah, Yekaterina Shpanskaya, Choong-Seock Chang, Seung-Hoe Ku, Anatoli Melechko, Nagiza Samatova. *Automatic and Statistically Robust Spatio-temporal Detection and Tracking of Fusion Plasma Fronts*, SciDAC 2010.
  1. Paul Breimyer, Guruprasad Kora, William Hendrix, Neil Shah, Nagiza Samatova. *pR: Automatic Parallelization of Data-parallel Statistical Computing Codes for R in Hybrid Multi-node and Multi-core Environments*, IADIS 2009.

## Refereed Journal Publications

8. Diego Gomez-Zara, Yozen Liu, Leonardo Neves, Neil Shah, Maarten Bos. *Unpacking the exploration–exploitation tradeoff on Snapchat: The relationships between users’ exploration-exploitation interests and server log data*, Computers in Human Behavior 2023.
7. Tong Zhao, Tianwen Jiang, Neil Shah, Meng Jiang. *A Synergistic Approach for Graph Anomaly Detection with Pattern Mining and Feature Learning*, IEEE Transactions on Neural Networks and Learning Systems 2021.
6. Yike Liu, Tara Safavi, Neil Shah, Danai Koutra. *Reducing Large Graphs to Small Supergraphs: A Unified Approach*, Social Network Analysis and Mining 2018.
5. Bryan Hooi, Kijung Shin, Hyun Ah Song, Alex Beutel, Neil Shah, Christos Faloutsos. *Graph-based Fraud*

- Detection in the Face of Camouflage*, Transactions on Knowledge Discovery from Data (TKDD) 2017
- Neil Shah, Danai Koutra, Lisa Jin, Tianmin Zou, Brian Gallagher, Christos Faloutsos. *On Summarizing Large-Scale Dynamic Graphs*, Data Engineering Bulletin 2017.
  - Danai Koutra, Neil Shah, Joshua T. Vogelstein, Brian Gallagher, Christos Faloutsos. *DeltaCon: A Principled Massive-Graph Similarity Function with Attribution*, Transactions on Knowledge and Data Discovery 2015.
  - John Jenkins, Isha Arkatkar, Sriram Lakshminarasimhan, David Boyuka, Eric Schendel, Neil Shah, Stephane Ethier, Choong-Seock Chang, Jackie Chen, Hemant Kolla, Scott Klasky, Robert Ross, Nagiza Samatova. *ALACRITY: Analytics-driven Lossless Data Compression for Rapid In-situ Indexing, Storing, and Querying*, Transactions on Large-Scale Data-and Knowledge-Centered Systems (TLDKS) 2013.
  - Sriram Lakshminarasimhan, Neil Shah, Stephane Ethier, Scott Klasky, Robert Latham, Robert Ross, Nagiza Samatova. *ISABELA for Effective In-situ Compression of Scientific Data*, Concurrency and Computation: Practice and Experience 2011.

## Refereed Workshop Publications

- Neil Shah. *Scale-Free, Attributed and Class-Assortative Graph Generation to Facilitate Introspection of Graph Neural Networks*, KDD MLG 2020.
- Rohan Kumar, Mohit Kumar, Neil Shah, Christos Faloutsos. *Did We Get It Right? Predicting Query Performance in E-commerce Search*, SIGIR eCom 2018.
- Yike Liu, Tara Safavi, Neil Shah, Danai Koutra. *Reducing Million-Node Graphs to a Few Structural Patterns: A Unified Approach*, KDD MLG 2016.
- Neil Shah, Alex Beutel, Bryan Hooi, Leman Akoglu, Stephan Gunnemann, Disha Makhija, Mohit Kumar, Christos Faloutsos. *EdgeCentric: Anomaly Detection in Edge-Attributed Networks*, ICDM DMCS 2016.
- Yike Liu, Neil Shah, Danai Koutra. *An Empirical Comparison of the Sumarization Power of Graph Clustering Methods*, NIPS NSIS 2015.

## Surveys

- Tong Zhao, Wei Jin, Yozen Liu, Yingheng Wang, Gang Liu, Stephan Gunnemann, Neil Shah, Meng Jiang. *Graph Data Augmentation for Graph Machine Learning*, IEEE Data Engineering Bulletin (2023)
- Srijan Kumar, Neil Shah. *False Information on the Web and Social Media*, arXiv (2018).

## Tutorials

- Rui Xue, Haoyu Han, Tong Zhao, Neil Shah, Jiliang Tang, Xiaorui Liu. *Large-Scale Graph Neural Networks: The Past and New Frontiers*, KDD 2023.
- Tong Zhao, Kaize Ding, Wei Jin, Gang Liu, Meng Jiang, Neil Shah. *Augmentation Methods for Graph Learning*, SDM 2023.

## Book Chapters

- Sara Abdali, Gisel Bastidas, Neil Shah, Evangelos Papalexakis. *Tensor Embeddings for Content-Based Misinformation Detection with Limited Supervision*, Disinformation, Misinformation, and Fake News in Social Media.
- Neil Shah. *Introduction to R*, Practical Graph Mining with R.
- Kanchana Padmanabhan, Sriram Lakshminarasimhan, Zhenhuan Gong, John Jenkins, Neil Shah, Eric Schendel, Isha Arkatkar, Robert Ross, Scott Klasky, Nagiza Samatova. *In-situ Analysis in Support of Exploratory Scientific Discovery in Data-Intensive Science*, Data-Intensive Science.

## ACADEMIC EXPERIENCE

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### Invited Talks

- Panelist at KDD Graph Learning Benchmarks (GLB) Workshop (2023)

- Invited Speaker at Samsung Research (2023)
- Keynote Speaker at RE-WORK AI Summit West (2023)
- Panel Moderator at KDD Misinformation and Misbehavior (MIS2-TrueFact) Workshop (2022)
- Invited Panelist at KDD Deep Learning on Graphs (DLG) Workshop (2022)
- Keynote Speaker for KDD Deep Learning on Graphs (DLG) Workshop (2022)
- Panel Moderator at TigerGraph AI Summit (2022)
- Invited Speaker at WSDM (2022)
- Invited Panelist at the Knowledge Graph Conference (2022)
- Invited Speaker at the Knowledge Graph Conference (2022)
- Invited Speaker at UC Riverside Computer Science and Engineering (CSE) Colloquium (2022)
- Keynote Speaker for WSDM Machine Learning on Graphs (MLOG) Workshop (2022)
- Invited Speaker Pinterest Trust and Safety Summit (2021)
- Panel Moderator for KDD Outlier Detection and Discovery (ODD) Workshop (2021)
- Keynote Speaker for KDD Machine Learning in Finance (MLF) Workshop (2021)
- Keynote Speaker for SDM Doctoral Consortium (2021)
- Keynote Speaker for SDM Minisymposium on Dynamic Networks (2020)
- Keynote Speaker for ICDM Doctoral Consortium (2019)
- Keynote Speaker for WWW CyberSafety Workshop (2018)
- Keynote Speaker for KDD Outlier Detection De-constructed Workshop (2018)
- Keynote Speaker for ECML-PKDD PhD Forum (2018)

## Service

### Conference Organization

- Organizing Committee for KDD: Hands-On Tutorial Chair 2023
- Organizing Committee for ICWSM: Sponsorship Chair 2023
- Organizing Committee for WSDM: Cup Chair 2020, Cup Chair 2022
- Organizing Committee for ASONAM (PC Chair, Industrial Track 2019)
- Organizer for ICDM Mining and Learning on Graphs (MLOG) Workshop (2022, 2023)
- Organizer for KDD Mining and Learning with Graphs (MLG) Workshop (2022, 2023)
- Organizer for CIKM Federated Learning with Graph Data (FedGraph) Workshop (2022)
- Organizer for KDD Misinformation and Misbehavior Mining (MIS2) Workshop (2021, 2022)
- Organizer for TheWebConf CyberSafety Workshop (2019, 2020)
- Session Chair for TheWebConf: “Security and Privacy” (2018), “Graph Models” (2021)
- Session Chair for KDD: “Graph Algorithms” (2020), “Graphs and Networks” (2021), “Graph Learning & Social Network” (2022)
- Session Chair for DSAA: “Subgraphs” (2019)
- Session Chair for ICDM “Social” track (2016)

### Peer Review

- Early Career Data Mining Award Committee for SDM (2023)
- Best Paper Award Committee for SDM (2023)
- Senior Program Committee for AAAI (2023, 2024)
- Senior Program Committee for PAKDD (2023)
- Senior Program Committee for KDD (2022)
- Senior Program Committee for SDM (2022, 2023, 2024)
- Senior Program Committee for WSDM (2022, 2023, 2024)
- Senior Program Committee for CIKM (2021, 2022, 2023)
- Area Chair for TheWebConf (2024)
- Area Chair for LoG (2022, 2023)
- Program Committee for ICLR (2024)
- Program Committee for NeurIPS (2023)
- Program Committee for ICDM (2022)

- Program Committee for ASONAM (2022)
- Program Committee for WSDM (2019, 2020, 2021)
- Program Committee for KDD (2019, 2020, 2021)
- Program Committee for TheWebConf (2015, 2018, 2020, 2021, 2022)
- Program Committee for SDM (2018, 2019, 2020, 2021)
- Program Committee for CIKM (2017, 2020)
- Reviewer for ACM TKDD Journal (2018, 2019, 2020)
- Reviewer for Springer DAMI Journal (2018, 2019)
- Reviewer for ACM TSOC Journal (2018, 2019)
- Reviewer for ACM TKDE Journal (2016, 2017)
- Reviewer for CSCW (2019)
- Reviewer for CHI (2019)
- Reviewer for WISE (2014)
- Reviewer for IPDPS (2011)
- Program Committee for WWW Graph Learning and Benchmarks (GLB) Workshop (2022, 2023)
- Program Committee for WSDM Doctoral Consortium (2020)
- Program Committee for ICML LXAI Workshop (2020)
- Program Committee for ICDM Demo Session (2018, 2019)
- Program Committee for WSDM Misinformation and Misbehavior Mining Workshop (2018)
- Program Committee for KDD MLG Workshop (2017, 2018, 2019)
- Program Committee for WWW Graph Learning Benchmarks (GLB) Workshop (2021)
- Program Committee for RecSys Workshop on Graph Neural Networks for RecSys (GreS) (2021)
- Program Committee for WSDM HeteroNAM Workshop (2017, 2018)
- Program Committee for ICDM PhD Forum (2017)
- Program Committee for CIKM PhD Forum (2019)

## Mentorship

### Internships and Collaborations

- Ms. Zhichun Guo (intern at Snap Research, 2022)
- Mr. Vedant Bhatia (intern at Snap, 2022)
- Mr. Yiwei Wang (intern at Snap Research, 2022)
- Mr. William Shiao (intern at Snap Research, 2022)
- Mr. Xiaotian Han (intern at Snap Research, 2022)
- Mr. Cazamere Comrie (intern at Snap Research, 2021)
- Mr. Lingxiao Zhao (intern at Snap Research, 2021)
- Mr. Wei Jin (intern at Snap Research, 2021 & 2022)
- Mr. Shichang Zhang (intern at Snap Research, 2021)
- Mr. Yingtong Dou (intern at Snap Research, 2021)
- Mr. Yozen Liu (RA at Snap Research, 2020)
- Ms. Qi Yang (intern at Snap Research, 2020)
- Mr. Satyaki Sikdar (intern at Snap Research, 2020)
- Mr. Yao Ma (intern at Snap Research, 2020)
- Mr. Aravind Sankar (intern at Snap Research, 2020)
- Mr. Tong Zhao (intern at Snap Research, 2020)
- Mr. Nicholas Vincent (intern at Snap Research, 2020)
- Mr. Farhan Asif Chowdhury (intern at Snap Research, 2020)
- Mr. Koustuv Saha (intern at Snap Research, 2020)
- Ms. Brihi Joshi (intern at Snap Research, 2019)
- Mr. Shiyang Yan (intern at Snap Research, 2019)
- Mr. Xianfeng Tang (intern at Snap Research, 2019 & 2020)
- Ms. Parisa Kaghzadaran (intern at Snap Research, 2019)
- Mr. Himel Dev (intern at Snap Research, 2019)
- Mr. Anis Zaman (intern at Snap Research, 2019)

- Mr. Can Liu (intern at Snap Research, 2019)
- Mr. Dipankar Niranjana (BS student, IIT Delhi, 2018)
- Ms. Shreya Jain (BS student, IIT Delhi, 2018)
- Mr. Hamed Nilforoshan (intern at Snap Research, 2018)
- Ms. Hana Habib (intern at Snap Research, 2018)
- Mr. Hemank Lamba (intern at Snap Research, 2018)
- Mr. Rohan Kumar (visiting CS student at CMU, 2017)
- Ms. Qicheng Huang (EE PhD student at CMU, 2017)
- Ms. Chenlei Fang (EE PhD student at CMU, 2017)
- Mr. Tianmin Zou (CS MS student at CMU, 2017)

### Thesis Supervision

- Committee Member for Ms. Zhichun Guo (2023)
- Committee Member for Mr. Wei Jin (2023)
- Committee Member for Mr. Yingtong Dou (2021)
- Committee Member for Mr. Aravind Sankar (2021)
- Committee Member for Mr. Tong Zhao (2020)

### Funding

- Contributed towards Flipkart faculty grant (with CMU: Bryan Hooi, Dhivya Eswaran, Christos Faloutsos)
- Contributed towards Wharton Customer Analytics Initiative proposal “Fraud Detection through Mining Dynamic Behavior for Group Anomalies” (with CMU: Alex Beutel and Christos Faloutsos)
- Contributed towards PNC Center for Financial Services proposal PF15003: “Fraud Detection in Financial Data” (with CMU: Alex Beutel and Christos Faloutsos)
- Contributed towards proposal DOE-NNSA-30788.1.1990222 “Quantifying Network Changes” (with CMU: Danai Koutra and Christos Faloutsos)
- Contributed towards proposal NSF IIS-1028746 “Collaborative Research: Understanding Climate Change: A Data Driven Approach” (with NCSU: Nagiza Samatova and Fredrick Semazzi)

### Teaching

- Guest Lecture “Improving the Scalability of Graph Neural Networks” for Georgia Institute of Technology ISYE 4803 Network Science and Analysis Teaching, by Prof. Tejas Santanam (2023)
- Guest Lecture “Improving the Scalability of Graph Neural Networks” for Georgia Institute of Technology CSE 6240: Web Search and Text Mining, by Prof. Srijan Kumar (2023)
- Guest Lecture “Improving the Scalability of Graph Neural Networks” for Michigan State University CSE 482 Big Data Analysis, by Prof. Jiliang Tang (2022)
- Guest Lecture “Machine Learning on Graphs with Scarce Labels” for Rensselaer Polytechnic Institute MGMT-6560-02 Introduction to Machine Learning Applications, by Prof. Lydia Manikonda (2021)
- Guest Lecture “Machine Learning on Graphs with Scarce Labels” for Rensselaer Polytechnic Institute MGMT-6560-02 Introduction to Machine Learning Applications, by Prof. Lydia Manikonda (2021)
- Guest Lecture “Mining Misbehavior on Large-Scale Social Platforms” for Vanderbilt CS-5981-06 Social Network Analysis, by Prof. Tyler Derr (2020)
- Guest Lecture “A Foray into Graph Mining” for USC CSCI-699 Introduction to Information Extraction, by Prof. Xiang Ren (2019)
- Guest Lecture “Graph Mining for Fraud Detection” for CMU 15-300 Research and Innovation in Computer Science, by Prof. Todd Mowry (2015)
- Teaching Assistant for CMU 15-300 Research and Innovation in Computer Science, by Prof. Todd Mowry (2015)
- Teaching Assistant for CMU 15-826 Multimedia Databases and Data Mining, by Prof. Christos Faloutsos (2014)



## TECHNICAL SKILLS

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- Cloud Platforms: GCP, AWS
- Programming Languages/Tools: Python, Java, C, C++, x86 Assembly
- Web Languages/Tools: SQL, HTML, PHP, JavaScript, CSS, WordPress
- Engineering Tools: Matlab, R
- Typesetting Tools: L<sup>A</sup>T<sub>E</sub>X, Microsoft Office, LibreOffice
- Source Code Management Tools: Git, Subversion
- Operating Systems: Mac OSX, Ubuntu Linux, Microsoft Windows

## GRADUATE COURSEWORK

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### Carnegie Mellon University

- *Advanced and Distributed Operating Systems* with Prof. David Andersen,
- *Multimedia Databases and Data Mining* with Prof. Christos Faloutsos
- *Graduate Algorithms* with Prof. Manuel Blum
- *Machine Learning* with Profs. Barnabas Póczos and Aarti Singh
- *Randomized Algorithms* with Prof. Bernhard Haeupler
- *Programming Language Semantics* with Prof. André Platzer

### North Carolina State University

- *Automated Learning & Data Analysis* with Prof. Nagiza Samatova
- *Software Engineering* with Prof. Tao Xie,
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Available upon request.