Chen Chen

CONTACT INFORMATION

135 Rio Robles E, Unit 128
San Jose, CA 95134, USA

Email: chenannie45@gmail.com
Homepage: https://chenannie45.github.io/

RESEARCH INTERESTS

Large-scale data mining in graphs, real-world network analysis, and information dissemination in applications to social media mining, healthcare, and infrastructure analysis.

EDUCATION

Arizona State University, Arizona, USA — Aug 2014 - Mar 2019
Ph.D., Computer Science and Engineering
- Thesis: *Connectivity in Complex Networks: Measures, Inference and Optimization*
- Advisor: Prof. Hanghang Tong

Graduate Center, City University of New York, New York, USA — Sep 2013 - May 2014
Ph.D., Computer Science (Transferred to ASU)
- Advisor: Prof. Hanghang Tong

New York University, New York, USA — Sep 2011 - May 2013
M.S., Computer Science

Beihang University, Beijing, China — Sep 2007 - Jul 2011
B.Eng., Computer Science and Engineering

HONORS AND AWARDS

- Rising Star in EECS — 2019
- Bests of KDD 2016 — 2016
- Bests of SDM 2015 — 2015
- KDD Travel Award — 2018
- SBP-BRiMS Doctor Consortium Travel Award — 2017
- KDD Travel Award — 2016
- ICDM Travel Award — 2015
- SDM Travel Award — 2015
- Science Fellowship, Graduate Center, CUNY — 2013-2014
- Tencent Scholarship, Beihang University (2/166) — 2008-2009
- All-around student, Beihang University — 2008-2009
- Academic excellence awards, Beihang University (top 5%) — 2007-2009

PROFESSIONAL EXPERIENCES

Software Engineer at Google — April 2019 - Present
Areas of Research: knowledge graph, recommender systems
- Working on AoG (Actions on Google) for Google Assistant with knowledge graph mining

Research Assistant at Arizona State University — Sept 2014 - Mar 2019
Areas of Research: graph mining, information diffusion
- Led the project of multi-layered network mining
- Led the project of network connectivity optimization

Research Intern, Futurewei Technologies Inc. — May 2016 - Aug 2016
Areas of Research: graph mining, recommender systems
- Worked on the recommendation problems in dynamic networks

Research Assistant, City University of New York — Sep 2013 - May 2014
Areas of Research: graph mining, information diffusion and bioinformatics
- Worked on graph manipulation algorithms to control the diffusion process in network
- Analyzed biological datasets to discover critical connections among biological entities

Research Assistant, New York University — Jun 2012 - Jan 2013
Areas of Research: named entity extraction

- Developed and optimized the named entity expansion system with active learning

Research Assistant, Beihang University   Jun 2010 - Jul 2011
Area of Research: 3D model retrieval
- Proposed a view based 3D model retrieval algorithm with Bag-of-Words algorithm

PUBLICATIONS   **Refereed Journal Publications**

[J1] **Chen Chen**, Yinglong Xia, Hui Zang, Jundong Li, Huan Liu, Hanghang Tong "Incremental One-Class Collaborative Filtering with Co-Evolving Side Networks", Knowledge and Information Systems, (Major Revision).

[J2] **Chen Chen**, Ruiyue Peng, Lei Ying, Hanghang Tong, "Fast Connectivity Minimization on Large-Scale Networks", ACM Transactions on Knowledge Discovery from Data, (Under Review).

[J3] **Chen Chen**, Jingrui He, Nadya Bliss, Hanghang Tong, "Towards Optimal Connectivity on Multi-layered Networks", IEEE Transactions on Knowledge and Data Engineering, 29(10): 2332-2346, 2017.

[J4] **Chen Chen**, Hanghang Tong, Lei Xie, Lei Ying, Qing He, "Cross-Dependency Inference in Multi-layered Networks: A Collaborative Filtering Perspective", ACM Transactions on Knowledge Discovery from Data (*Special Issue of "Bests of KDD 2016"*), 11(4): 42:1-42:26, 2017.

[J5] **Chen Chen**, Hanghang Tong, "On the Eigen-Functions of Dynamic Graphs: Fast Tracking and Attribution Algorithms", Statistical Analysis and Data Mining (*Special Issue of "Best of SDM 2015"*), 10(2): 121-135, 2017.

[J6] **Chen Chen**, Hanghang Tong, B Aditya Prakash, Charalampos Tsourakakis, Tina Eliassi-Rad, Christos Faloutsos, Duen Horng Chau, "Node Immunization on Large Graphs: Theory and Algorithms", IEEE Transactions on Knowledge and Data Engineering, 28(1): 113-126, 2016.

[J7] **Chen Chen**, Hanghang Tong, B Aditya Prakash, Tina Eliassi-Rad, Michalis Faloutsos, Christos Faloutsos, "Eigen-Optimization on Large Graphs by Edge Manipulation", ACM Transactions on Knowledge Discovery from Data, 10(4): 49:1-49:30, 2016.

Refereed Conference Publications

[C1] Yuzhe Zhang, **Chen Chen**, Minnan Luo, Jundong Li, Caixia Yan, Qinghua Zheng "Unsupervised Hierarchical Feature Selection on Networked Data", SIAM International Conference on Data Mining (SDM), 2020. (Under Review)

[C2] Zhen Peng, Minnan Luo, Jundong Li, **Chen Chen**, Qinghua Zheng "Heterogeneous Information Network Hashing for Fast Nearest Neighbor Search", International Conference on Database Systems for Advanced Applications (DASFAA), 2019.

[C3] **Chen Chen**, Ruiyue Peng, Lei Ying, Hanghang Tong, "Network Connectivity Optimization: Fundamental Limits and Effective Algorithms", ACM SIGKDD International Conference on Knowledge Discovery and Data Mining (KDD), 2018.

[C4] **Chen Chen***, Jundong Li*, Huan Liu, Hanghang Tong, "Multi-Layered Network Embedding", SIAM International Conference on Data Mining (SDM), 2018. (* Equal Contribution)

[C5] Qiao Liu, **Chen Chen**, Annie Gao, Hanghang Tong, Lei Xie, "VariFunNet, an Integrated Multiscale Modeling Framework to Study the Effects of Rare Non-Coding Variants in Genome-Wide Association Studies: Applied to Alzheimer's Disease", IEEE International Conference on Bioinformatics and Biomedicine (BIBM), 2017.

[C6] **Chen Chen**, Hanghang Tong, Lei Xie, Lei Ying, Qing He, "FASCINATE: Fast Cross-Layer Dependency Inference on Multi-layered Networks", ACM SIGKDD International Conference on Knowledge Discovery and Data Mining (KDD), 2016. (**Bests of KDD 2016**)

[C7] **Chen Chen**, Jingrui He, Nadya Bliss, Hanghang Tong, "On the Connectivity of Multi-layered Networks: Models, Measures and Optimal Control", IEEE International Conference on Data Mining, 2015.

[C8] **Chen Chen**, Hanghang Tong, "Fast Eigen-Functions Tracking on Dynamic Graphs", SIAM International Conference on Data Mining (SDM), 2015. (**Bests of SDM 2015**)

Doctoral Consortium

[D1] **Chen Chen** "Network Connectivity in Complex Networks: Measures, Inference and Optimization", ACM International Conference on Web Search and Data Mining (WSDM), 2018.

[D2] **Chen Chen**, Hanghang Tong, "Network Connectivity in Complex Networks: Measures, Inference and Optimization", International Conference on Social Computing, Behavioral-Cultural Modeling & Prediction (SBP-BRiMS), 2017.

TEACHING EXPERIENCE

Teaching Assistant and Guest Lecturer, Arizona State University
- CSE 575 Statistical Machine Learning   Spring 2016
- CSE 591 Semantic Web Mining   Fall 2015

MENTORING EXPERIENCE

- **Zhen Peng**, Ph.D. student at Xi'an Jiaotong University   Aug 2018 - Jan 2019
  Research Topic: heterogeneous network hashing
  Collaborated Paper: [C2]
- **Haichao Yu**, M.Sc. student at Arizona State University   Nov 2017 - May 2018
  Research Topic: multi-layered networks
  Master Thesis: *Multi-layered HITS on Multi-sourced Networks*
- **Ruiyue Peng**, M.Sc. student at Arizona State University   May 2015 - Nov 2016
  Research Topic: network optimization
  Master Thesis: *TiCTak: Target-Specific Centrality Manipulation on Large Networks*
  Collaborated Paper: [C3]
- **Ruchi Banerjee**, high school student at Basha High School   May 2015 - Aug 2015
  Research Topic: Network Influence Model

GRANTS WRITING My research work contributed significantly in receiving the following grants:
- NSF grant: "CAREER: Network Robustification: Theories, Algorithms and Applications" ($511,827, 8/1/2017 – 7/31/2022, PI: Hanghang Tong)
- DTRA grant: "Towards a Theory of Closed-Loop Robustness for Real-Time Learning and Control of Multilayered Networks under Cascading Failures" ($749,634, 2/2/2016-2/1/2021, PI: Hanghang Tong, co-PI: Lei Ying)
- NSF grant: "III: Small: Towards a Theoretical Foundation for Diffusion Source Localization" ($500,000, 9/1/2017-8/31/2020, PI: Lei Ying, co-PI: Hanghang Tong)

SERVICES

Program Committee:
- International Conference on Database Systems for Advanced Applications   2020
- International Joint Conference on Artificial Intelligence   2019
- International Conference on Social Computing, Behavior-Culture Modeling, and Prediction and Behavior Representation in Modeling and Simulation   2019
- AAAI International Conference on Artificial Intelligence   2019, 2020

- ACM International Conference on Information and Knowledge Management   2017, 2019
- CCF Conference on Natural Language Processing and Chinese Computing   2017, 2019

Journal Reviewer:
- IEEE Transactions on Knowledge and Data Engineering
- Data Mining and Knowledge Discovery
- Pattern Recognition
- Neurocomputing

Conference Volunteer:
- ACM SIGKDD Conference on Knowledge Discovery and Data Mining   2016, 2018
- IEEE International Conference on Data Mining   2015

REFERENCES   Available upon requests.