

Qingquan SONG

Contact Information

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Research Interests

Data Mining & Machine Learning: Dynamic Data Analysis, Lifelong Learning, Automated Machine Learning, Tensor Analysis, Adversarial Machine Learning, Network Embedding.

Education

09/2016–Now	Texas A&M University (TAMU) Ph.D student in Computer Science	Dept. of Computer Science & Engineering Advisor: Dr. Xia (Ben) Hu
09/2012–06/2016	University of Science and Technology of China (USTC) Bachelor of Science in Statistics	Dept. of Statistics and Finance Overall GPA: 3.95/4.30

Publications

- [KDD' 17] **Qingquan Song**, Xiao Huang, Hancheng Ge, James Caverlee, and Xia Hu. Multi-Aspect Streaming Tensor Completion. In *Proceedings of the 23rd SIGKDD Conference on Knowledge Discovery and Data Mining*. (Oral)
- [TKDD' 19] **Qingquan Song**, Hancheng Ge, James Caverlee, and Xia Hu. Tensor Completion Algorithms in Big Data Analytics. *ACM Transactions on Knowledge Discovery from Data*.
- [ICDM' 18] **Qingquan Song**, Haifeng Jin, Xiao Huang, and Xia Hu. Multi-Label Adversarial Perturbations. In *Proceedings of the 2018 IEEE International Conference on Data Mining*. (Short)
- [KDD' 18] Mengnan Du, Ninghao Liu, **Qingquan Song**, and Xia Hu. Towards Explanation of DNN-based Prediction with Guided Feature Inversion. In *Proceedings of the 24th SIGKDD Conference on Knowledge Discovery and Data Mining*. (Oral)
- [WSDM' 18] Xiao Huang, **Qingquan Song**, Jundong Li, and Xia Hu. Exploring Expert Cognition for Attributed Network Embedding. In *Proceedings of the 11th ACM International Conference on Web Search and Data Mining*.
- [ICBK' 18] Haifeng Jin, **Qingquan Song**, and Xia Hu. Discriminative Graph Autoencoder. In *Proceedings of the 9th IEEE International Conference on Big Knowledge*.
- [RecSys' 18] Xing Zhao, **Qingquan Song**, Jame Caverlee, and Xia Hu. TrailMix: An Ensemble Recommender System for Playlist Curation and Continuation. In *Proceedings of the 2018 ACM Recommender Systems Challenge workshop*.
- [AAAI' 19] Xiao Huang, **Qingquan Song**, Fan Yang, and Xia Hu. Large-Scale Heterogeneous Feature Embedding with Networks. *Proceedings of the 33rd AAAI Conference on Artificial Intelligence*. (AAAI' 19)

Preprints & Paper Under Review

- [Arxiv Preprint] Haifeng Jin, **Qingquan Song**, and Xia Hu. Auto-Keras: Efficient Neural Architecture Search with Network Morphism. *Under Review by the SysML Conference 2019*. (SysML' 19)
- [To Be Submitted] **Qingquan Song**, Shiyu Chang, and Xia Hu. Deep Variational Streaming Recommender System. *To Be Submitted*.

[To Be Submitted] Xiangwu Zuo, **Qingquan Song**, Mengnan Du, and Xia Hu. Generating Consistent Multi-modal Dialogue Responses with Emoticon Context Model. *To be submitted.*

Research and Open Source Projects

09/2016–Now	HELIOS: Accelerated Recovery of Evolving Spatial-Temporal Dynamics <ul style="list-style-type: none"> ○ Funded By: Defense Advanced Research Projects Agency (DARPA) ○ This project, which is a subproject of the Next-Generation Social Science (NGS2) project, aims to create new methods, algorithms, and frameworks for “filling in the gaps” of large rapidly evolving spatial-temporal datasets that are characterized by noisy and missing information. ○ Open-Source Package: PyTen. (A Python repository for advanced tensor decomposition and completion.)
03/2017–Now	D3M: Data-Driven Discovery of Models <ul style="list-style-type: none"> ○ Funded By: Defense Advanced Research Projects Agency (DARPA) ○ This project aims at developing automated model discovery systems that enable users with subject matter expertise but no data science background to create empirical models of real, complex processes. ○ Open-Source Package: Auto-Keras. (A Python repository for automated neural architecture search.) 4K+ Stars on Github.
03/2017– Now	Novel Embedding Algorithms for Large-Scale & Complex Attributed Networks <ul style="list-style-type: none"> ○ Funded By: National Science Foundation (NSF) ○ The goal of this project is to develop efficient and effective network embedding algorithms to deal with large-scale attributed networks that contain complex network interactions.
JUNE 2016	Study on Hybrid Recommendation Algorithm Based on Latent Factor Space <ul style="list-style-type: none"> ○ Bachelor’s Thesis ○ Design a hybrid latent space recommendation algorithm leveraging heterogenous information including movie ratings and reviews towards solving the cold-start problem in movie recommendations.

Honors, Awards, & Fellowships

10/2018	Nomination of IBM PhD Fellowship by Department of CSE TAMU <ul style="list-style-type: none"> ○ Top 3 Among All PhD Students in Dept. of CSE TAMU
08/2017	KDD 2017 Student Travel Awards
04/2017	Department of Computer Science and Engineering Travel Grant Funds <ul style="list-style-type: none"> ○ Awarded by College of Engineering, TAMU
04/2017	Silver Prize in Statistics Poster Session, TAMU <ul style="list-style-type: none"> ○ Awarded by Southeastern Texas Chapter American Statistical Association
10/2015	Kwang-Hua Scholarship, 1/69(Class), 50/7600 (University) <ul style="list-style-type: none"> ○ Awarded by University of Science and Technology of China
10/2013	Liu-Li Leadership Scholarship (1/67) <ul style="list-style-type: none"> ○ Awarded by the School of Management, University of Science and Technology of China

Technical Skills

Basic Knowledge: PYTHON, R, MATLAB, L^AT_EX, C/C++

Teaching

2015–2016	Teaching assistant <ul style="list-style-type: none"> ○ Course: Probability Theory and Mathematical Statistics (Undergraduate)
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Extracurricular Activities

2012-2016	Male Bass Group, USTC Student Choir <ul style="list-style-type: none"> ○ Perform in 6 special concerts and 2 annual concerts; ○ Won the Silver Prize in Adult Male Group, the Silver Prize in Mixed Choir Group, the 12th China International Choir Festival in 2014 (188 choirs from 43 countries) ○ Invited performer in Singing Ceremony of Hefei Statement during the C9 Annual Presidents Meetings (National meeting for China’s Ivy League, C9).
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