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) Dept. of Computer Science & Engineering
Ph.D student in Computer Science Advisor: Dr. Xia (Ben) Hu

09/2012–06/2016 University of Science and Technology of China (USTC) Dept. of Statistics and Finance
Bachelor of Science in Statistics 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 24rd 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**, James 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 Sumitted] **Qingquan Song**, Shiyu Chang, and Xia Hu. Deep Variational Streaming Recommender System. *To Be Submitted.*

[To Be Sumitted] Xiangwu Zuo, **Qingquan Song**, Mengnan Du, and Xia Hu. Generating Consistent Multimodal 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**
- 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**
- 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**
- 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**
- 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**
- 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**
- Awarded by College of Engineering, TAMU

04/2017 **Silver Prize in Statistics Poster Session, TAMU**
- Awarded by Southeastern Texas Chapter American Statistical Association

10/2015 **Kwang-Hua Scholarship, 1/69(Class), 50/7600 (University)**
- Awarded by University of Science and Technology of China

10/2013 **Liu-Li Leadership Scholarship (1/67)**
- Awarded by the School of Management, University of Science and Technology of China

Technical Skills

Basic Knowledge: Python, R, Matlab, LaTeX, C/C++

Teaching

2015–2016 **Teaching assistant**
- Course: Probability Theory and Mathematical Statistics (Undergraduate)

Extracurricular Activities

2012-2016 **Male Bass Group, USTC Student Choir**
- 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).