Qitian Wu

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EDUCATION

Shanghai Jiao Tong University 2018.09 - present

M.S. in Computer Science and Engineering

- Research Areas: machine learning, deep learning, data mining, natural language process.
- Core Courses: Algorithm Design and Analysis (A), Machine Learning (A), Natural Language Processing (A)

Shanghai Jiao Tong University 2014.09 - 2018.07

B.E. in Micro-electronic Science and Engineering

- Overall GPA: **90.2/100**, Major GPA: **91.6/100**, Rank: **2/39**
- Core Courses: C++ Programming (91), Data Structure (94), Operating System (95), Computer Organization (91), Complier Principle (94), Signal and Systems (99), Digital Signal Processing (96)

B.S. in Mathematics and Applied Mathematics (Second Major)

- Major GPA: **88.1/100**
- Core Courses: Mathematical Analysis I (100), Mathematical Analysis II (97), Advanced Algebra (98), Probability and Statistics (95), Ordinary Differential Equation, Partial Differential Equation, Abstract Algebra, Real Analysis, Complex Analysis, Differential Geometry, Numerical Analysis, Financial Modelling

PUBLICATIONS

[1] **Qitian Wu**, Rui Gao and Hongyuan Zha, Stein Bridging: Enabling Mutual Reinforcement between Explicit and Implicit Generative Models, Arxiv Preprint, CoRR abs/1909.13035.

[2] **Qitian Wu**, Zixuan Zhang, Xiaofeng Gao, Junchi Yan and Guihai Chen, Learning Latent Process from High-Dimensional Event Sequences via Efficient Sampling. *In Advances in Neural Information Processing Systems (NeurIPS'19).*

[3] **Qitian Wu**, Lei Jiang, Xiaofeng Gao, Xiaochun Yang and Guihai Chen, Feature Evolution Based Multi-Task Learning for Collaborative Filtering with Social Trust. *In International Joint Conference on Artificial Intelligence (IJCAI'19).*

[4] **Qitian Wu**, Yirui Gao, Xiaofeng Gao, Paul Weng and Guihai Chen, Dual Sequential Prediction Models Linking Sequential Recommendation and Information Dissemination. *In ACM SIGKDD International Conference on Knowledge Discovery and Data Mining (KDD'19, Research Track).*

[5] **Qitian Wu**, Hengrui Zhang, Xiaofeng Gao, Peng He, Paul Weng, Han Gao and Guihai Chen, Dual Graph Attention Networks for Deep Latent Representation of Multifaceted Social Effects in Recommender Systems. *In World Wide Web Conference (WWW'19, Oral Presentation).*

[6] **Qitian Wu**, Chaoqi Yang, Xiaofeng Gao, Peng He and Guihai Chen, EPAB: Early Pattern Aware Bayesian Model for Social Content Popularity Prediction. *In IEEE International Conference on Data Mining (ICDM'18).*

[7] **Qitian Wu**, Chaoqi Yang, Hengrui Zhang, Xiaofeng Gao, Paul Weng and Guihai Chen, Adversarial Training Model Unifying Feature Driven and Point Process Perspectives for Event Popularity Prediction. *In ACM International Conference on Information and Knowledge Management (CIKM'18).*

[8] Chaoqi Yang, **Qitian Wu**, Xiaofeng Gao and Guihai Chen, EPOC: A Survival Perspective Early Pattern Detection Model for Outbreak Cascades. *In International Conference on Database and Expert Systems Applications (DEXA'18).*

RESEARCH EXPERIENCES

Co-Training of Explicit and Implicit Generative Models 2019.07 - 2019.11

Advisor: Hongyuan Zha, Professor in Georgia Institute of Technology

- Designed a framework connecting Generative Adversarial Nets and Deep Energy Models via Stein discrepancy.
- Theoretically analyze the convergence of proposed method and showed its more stable training than WGAN.
- Conducted extensive experiments and achieved superior Inception Score on CIFAR-10.

Event Sequence Generation and Relation Modelling 2019.02 – 2019.09

Advisor: Junchi Yan, Associated Professor in Shanghai Jiao Tong University

1) Learning Latent Process from High-Dimension Event Sequences
- Proposed a structurally and temporally attentive generative models to generate marked event sequences
- Proved the proposed random walk sampling method is equivalent to a well-defined efficient sampling process.

2) Dual Imitation Learning for Event Sequence Imputation
- Assisted in building a dual imitation learning model and implemented the experiment codes.

Recommender System and User Behavior Modeling 2018.06 – 2019.02
Advisor: Paul Weng, Assistant Professor in Univerisity of Michigan & SJTU Joint Institute

1) Dual Graph Attention Networks (GAT) for Recommender Systems
- Constructed two dual GATs to represent four different social effects in both user and item domains.
- Designed a special policy net, based on contextual multi-armed bandit, to dynamically fuse four representations.

2) Hedge Training Linking Sequential Recommendation and Information Diffusion
- Proposed a training algorithm that allows one model to use prediction given the other as 'supervised' labels.
- Showed that such design can help to distinguish the false negative samples from the true negative ones.

3) Sentiment Aware Sequential Recommendation with User Review Sequences
- Assisted in building a sequential recommendation model with sentiment analysis for user review sequences.

Information Diffusion Prediction in Social Networks 2017.03 – 2018.01
Advisor: Xiaofeng Gao, Professor in Shanghai Jiao Tong University

1) Early-Stage Popularity Prediction for User Generated Contents in Social Networks
- Designed a Bayesian network to capture probabilistic relations among observed features and target variables.
- Implemented the model on three datasets (Twitter, Weibo, Wechat), and improved MAPE by 13.7%.

2) Adversarial Training Model for Event Popularity Prediction
- Proposed an adversarial model that unifies feature driven and point process models for popularity prediction.
- Adopted deep neural networks to parametrize the models, and implement the codes by Python with Tensorflow.

Fundamental Limits of Coded Caching in Time Constrained Networks 2016.05 - 2017.03
Advisor: Xinbing Wang, Professor in Shanghai Jiao Tong University
- Theoretically derived the achievable upper bound of transmission time of coded caching algorithm.
- Gave the theoretical lower bound of transmission time that is required in time constrained networks.
- Proved that the achievable upper bound differs from the optimal time within a constant factor.

INDUSTRY EXPERIENCE

Research Intern, Tencent WeChat Group/Social Diffusion Team 2018.07 – 2018.10
Advisor: Peng He, Distinguished Researcher
- Researched on article recommendation algorithm for Top Story application in WeChat, one of the world's largest social mobile app. with 1 billion daily active users.
- Proposed a new social recommendation model that improves AUC by 4.5% on real-world commercial dataset.

SELECTED AWARDS

- National Scholarship, *twice, top 1 in department* 2016, 2017
- Academic Excellence Scholarship (1st class), *twice, top 1 in department* 2016, 2017
- Lixin Tang Scholarship, *only 60 candidates out of ∼46000 students in SJTU* 2017, 2018
- Yuanqin Yang Scholarship, *only 3 candidates out of ∼130 students in CS department* 2019
- Outstanding Winner, INFORMS Awards, Mathematical Contest in Modeling, Data Insights Problem, *only 3 outstanding teams and 1 team with INFORMS Awards in 4748 teams* 2018
- Second Award, China Undergraduate Mathematical Contest in Modeling, *top 5.8% in 28046 teams* 2016
- First Award, Physics Competition of Chinese College Students 2015
- Outstanding Graduate of Shanghai, *top 5% in all undergraduate students in Shanghai* 2018
- Excellent Graduation Project in SJTU, *top 8 undergraduate students in department* 2018

SKILLS

English	TOEFL 103 (Reading: 27, Listening: 27, Speaking: 24, Writing: 25)
	GRE 327+4.0 (Verbal: 157, Quantitative: 170, Analytical Writing: 4.0)
Programming Languages	Python, C++, MATLAB, R, HTML5/CSS3, JavaScript
Deep Learning Tools	Tensorflow, PyTorch
Computer Skills	Git, LaTeX, Vim, Linux, MS Offices