Zihui Xue

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EDUCATION BACKGROUND

University of Texas at Austin (PhD Program)   Expected to join in 2020-2021

Major: Electrical and Computer Engineering

Fudan University   Rank: 10/189   Overall GPA:3.65/4.0   Sep.2016-Jun.2020

Major: Electronic and Information Science and Technology, Semester GPA: 3.85(2017-2018), 3.94(2018-2019)

Core Courses: Engineering Mathematics (A), Probability, Mathematical Statistics & Stochastic Process (A), Signal & System (A), Data Structure & Algorithm Design (A), Computer Theory & System (A)

University of California, Santa Barbara (Exchange Program)   GPA: 4.0/4.0   Sep.2018-Dec.2018

Core Courses: Undergraduate Level Course: Digital Signal Processing (A), Control Systems (A+);

Graduate Level Course: Tenser Data Analysis (A)

PUBLICATIONS

- S. Jiao, **Z. Xue**, X. Chen, and Y. Xu, "A Random Walk Approach for Sampling Graphlets of Multi-layer Heterogeneous Networks", *ACM Transactions on the Web*, under review.
- K. Zhang, C. Cui, C. Hawkins, **Z. Xue** and Z. Zhang, "Generic and Flexible Bayesian Tensor Learning for Multiple Tasks", *CIKM*, under review.

RESEARCH EXPERIENCE

Supervisor: Prof. Yuedong Xu, MediaNET Lab, Fudan University

Research Assistant, Graphlet Estimation via Graph Convolutional Networks   Jan.2019-Present
- Designed a graph neural network architecture for graphlet estimation;
- Experimental results demonstrate efficiency of the proposed methods;
- Achieved 10×speedup and 20%-70% reduced relative error by comparison with sampling algorithms.

Research Assistant, Sampling Graphlets of Multi-layer Heterogeneous Networks   Apr.2018-Dec.2019
- Developed the idea of sampling on a heterogeneous network structure;
- Developed a novel method for estimating graphlet concentrations in a restricted-access two-layered graph;
- Generated 20+ graph datasets with different characteristics for performance evaluation.

Team leader, Alibaba Global Scheduling Algorithm Competition   Jan.2018-Mar.2018
- Reviewed and implemented state-of-the-art scheduling algorithms;
- Developed a novel algorithm to solve scheduling problems in data center resource management;
- Results given by our algorithm ranked the top ten out of 2000 teams in Alibaba Global Scheduling Algorithm Competition.

Supervisor: Prof. Zheng Zhang, University of California, Santa Barbara

Research Assistant, Bayesian Tensor Learning   Dec.2018-Aug.2019
- Reviewed current methods for tensor completion problems and investigated Hamiltonian Monte Carlo (HMC);
- Brought up a method to address tensor completion with HMC and implemented the proposed algorithm in MATLAB;
- Conducted research on both synthetic data and real datasets in comparison with variational Bayesian inference methods.

PROJECT EXPERIENCE

Member, Visual Object Tracking   Mar.2019-June.2019
- ⋄ Studied the principle of correlation filters for translation and scale estimation;
- ⋄ Implemented discriminative scale-space tracker (DSST) in MATLAB;
- ⋄ Performed experiments on video datasets for performance evaluation.

Member, Personalized News Article Recommendation   Sep.2018-Dec.2018
- ⋄ Modeled the problem of personalized news article recommendation system as a multi-armed bandit problem with context information;
- ⋄ Solved the problem with Bayesian Optimization;
- ⋄ Accelerated the Gaussian Process Regression with tensor decomposition techniques and significantly reduced the computational complexity.

Member, Biomedical Sensor-based Monitoring System   Mar.2019-Jun.2019
- ⋄ Investigated the principle of Microcontroller, consulted the manual of MCU and designed a Microcontroller;
- ⋄ Coordinated the overall work of the research project and provided support for other members in their sections;
- ⋄ Submitted English research papers in accordance with the IEEE conference format.

Member, Voice Acquisition System Design   Mar.2019-Jun.2019
- ⋄ Designed and created a double bridge circuit on PCB for voice signal detection, amplification and filtering;
- ⋄ Programmed STC single-chip microcontroller to sample and quantize voice signals;
- ⋄ Designed interruption mechanism to achieve data communication with host computer and control dynamic display of digital tubes;
- ⋄ Created a host computer application using MATLAB to monitor and visualize voice signals.

WORKING EXPERIENCE

NLP Algorithm Intern, **Ping An Technology**   Jan.2019-Jul.2019
- ⋄ Investigated state-of-the-art Named Entity Recognition (NER) models and compared their performances;
- ⋄ Built, evaluated and improved current NER models for Chinese medical cases;
- ⋄ Annotated Chinese medical cases and maintained the datasets of medical cases and their annotations.

SCHOLARSHIPS & AWARDS

- ⋄ National Second Prize & Shanghai Division First Prize in 2018 China Undergraduate Mathematical Contest in Modeling;
- ⋄ Ranked 8/2115 teams in the first round and 13/2116 teams in the second round in 2018 Alibaba Global Scheduling Algorithm Competition;
- ⋄ Tung OOCL Scholarship at Fudan University (the First Prize) in the 2017-2018 academic year;
- ⋄ Third Prize of the Scholarship for Outstanding Students at Fudan University in the 2016-2017 academic year.

EXTRACURRICULAR ACTIVITIES

Volunteer of World Artificial Intelligence Conference, Fudan University   Sep.2018-Sep.2018
Deputy Minister of Arts Department, Student Union, Fudan University   Oct.2017-Oct.2018

PROGRAMMING SKILLS

Programing Language: Proficient in C/C++, Python, MATLAB, Linux; Familiar with Verilog
Language skills: Native in Chinese; Fluent in English; TOEFL108(R30 L30 S25 W23); GRE327(Q168 V159 W4.0)