Bowen Jin

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EDUCATION

TSINGHUA UNIVERSITY **Beijing, China**
Major: Electronic Information Science and Technology B. Eng. GPA: 3.89 / 4.0 (7 /278) Sep 2017 - Aug 2021
TSINGHUA UNIVERSITY **Beijing, China**
Minor: Statistics; GPA: 3.5 / 4.0 Sep 2018 - Aug 2020
Core Courses: Multivariate Statistical Analysis, Statistical Methods in Data Mining, Statistical Computing, Statistical Inference, Linear Regression Analysis, Applied Time Series Analysis

PUBLICATIONS

- **Bowen Jin***, C. Gao, X. He, Y. Li, D. Jin. *Multi-behavior Recommendation with Graph Convolution Networks*. **Accepted and published on SIGIR 2020 Conference**
- C.Gao, J. Zhang, **Bowen Jin**, N. Li, Y. Li, Z. Tu, G.Pan, D. Jin. *Coupling User Interest and Mobility Pattern: Geography-aware Location Visitation Prediction with Graph Neural Networks.* **Preprint**
- Y. Zheng, C. Gao, W. Ni, **Bowen Jin**, Y. Li, D. Jin. *Diversified Recommendation Through Similarity-Guided Graph Neural Networks.* **Preprint**

HONORS AND AWRDS

National Scholarship (twice) (top 2%) 2018/2019
Scholarship of Academic Excellence 2018
Advanced Individual of Cultural and Sports Activities (twice) 2018/2019
Honorable Mention in Mathematical Contest in Modeling (top 15.35%) 2019

RESEARCH EXPERIENCE

GRAPH NEURAL NETWORK AND GRAPH POOLING
Research Assistant online in the Department of Computer Science, UCLA *Jul 2019 - Sep 2019*
Advisor: Prof. Yizhou Sun **Los Angeles, USA**

- Designed graph pooling methods with Laplacian regularization
- Proposed a kernel-based graph pooling method which combines kernel K-means to prevent overfitting
- Conducted graph classification and subgraph detection task with kernel-based graph pooling method

GRAPH NEURAL NETWORK AND RECOMMENDER SYSTEM
Research Assistant in the Future Communications and Internet Lab, Tsinghua University *Sep 2018 - Present*
Advisor: Prof. Yong Li **Beijing, China**

- Implement some baselines models (MF, NeuMF etc.) in recommender system
- Proposed and implemented a multi-behavior recommender system and the accuracy of recommendation recall was improved by 6.51% and finally reached 25.02% on ten-thousand level real world datasets
- Designed models to utilize social information for POI recommendation and the accuracy of recommendation recall was improved by 6.85% and finally reached 37.32% on ten-thousand level real world datasets

STATISTICAL NETWORK ANALYSIS
Research Assistant in the Department of Statistics, University of Michigan—Ann Arbor *Jul 2019—Sep 2019*
Advisor: Prof. Ji Zhu **Ann Arbor, USA**

- Investigated related works (deepwalk, node2vec, line) in graph embedding field and wrote 1000+ line code for graph embedding models to do semi-supervised tasks

- Proposed and implemented graph embedding models and got link prediction accuracy more than 90% on Facebook social graph dataset

PROJECT EXPERIENCE

Signal and System Project
- Analyzed violin sonata by using joint time-frequency analysis, short-time Fourier transformation and windowing operation in time domain
- Composited music with Fourier Series
- Compressed image with JPEG coding and achieved face detection with color histogram.

Fundamental of Digital Logic and Processor Project
- Implemented a single cycle MIPS processor with Verilog
- Developed a pipeline MIPS processor with Verilog which could deal with exception and break off
- Performed the bubble sorting algorithm with assembly language

Probability and Stochastic Processes Project
- Implemented gaussian regression, used it to predict NASDAQ stock price and got prediction error less than 0.4 for 5 days' prediction
- Proposed several MLP-based gaussian regression kernels and got 0.8% accuracy improvement for 5 days' prediction

Computer Network Project
- Implemented web crawlers with urllib and BeaytifulSoup
- Captured (POI, relation, POI) triple from Baidu Baike using recursive list and constructed POI knowledge graph
- Implemented and trained KG embedding with TransE and Dismult model

Digital Image Processing Project
- Developed several image processing tools including histogram equalization, histogram specification, edge detection, frequency domain enhancement, pseudo color enhancement, fuzzy processing and Huffman coding with MATLAB
- Implemented a license plate detection algorithm based on edge detection and color recognition

Media and Cognition Project
- Implemented a traffic sign classification model based on CNN with PyTorch which got 96.5% classification accuracy on thousand level traffic sign classification dataset
- Implemented faster R-CNN model with detection2 to do traffic sign detection and recognition task and got 60% detection recall on thousand level dataset

LEADERSHIP EXEPRIENCE

Vice-Captain of Chinese Orchestra at Tsinghua University
- Won the first prize in Beijing Student Chinese Orchestra Competition
- Led a team of 70+ players and organized six concerts at Tsinghua University

OTHERS

Skills: Python/C/C++/MATLAB/R/Html/Linux/Markdown/Shell/SQL
Test Scores: TOEFL:103; GRE 326