Junheng Hao

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Education

University of California, Los Angeles — **Los Angeles, USA**
Ph.D. Student, Department of Computer Science — *Sept. 2017 - Present*
Advisors: Yizhou Sun, Wei Wang

- Major of Field: Information and Data Management(IDM), Minors: Artificial Intelligence, Statistics
- GPA: 3.85/4.00 | Core courses: Machine Learning in Natural Language Processing(A+), Theoretical Statistics(A), Statistical Modeling in Vision(A), Neural Networks and Deep Learning(A-), Convex Optimization(A-)
- Course projects: CT-GAN: Conditioned Text Generation [Video] [PDF]; Taxi destination prediction with embedding metadata and trajectory paths [PDF]

Tsinghua University — **Beijing, China**
Bachelor of Engineering, School of Information Science and Technology — *Aug. 2013 - July. 2017*

- Overall GPA: 89.2/100 (3.8/4.0), Rank: 13/148 (Top 10%)
- Outstanding graduate in Department of Automation, Tsinghua University

Research Interests

Knowledge Base and Graph, Graph Embedding, Graph/Text Mining, Machine Learning

Research & Past Projects

Knowledge Transfer on Enterprise Blueprint | Research Intern — **Princeton, USA**
Advisor: Lu-An Tang — *June 2018 - Present*

- Ongoing major project: Intelligence retrieve and knowledge transfer from knowledge graph of ASI Enterprise Engine.
- Ongoing minor project: Deep-learning based End-point DNS Monitoring System for Malicious Process Detection.

Improvement on Knowledge Graph Embedding | Graduate Student Researcher — **Los Angeles, USA**
Lab: Scalable Analytics Institute (ScAi) — *Sept. 2017 - Present*

- Ongoing research topics: (1) Jointly training on ontological knowledge graph (2) Dimension-wise Attention based model in knowledge graph embedding.

DynaMIT2.0 | Research Intern — **Singapore**
Advisor: Moshe Ben-Akiva (MIT), Ravi Seshadri (SMART Lab) — *Aug. 2016 - Sept. 2016*
Lab: Future Mobility Computing Lab, Singapore-MIT Alliance for Research and Technology

- Implemented improvement on original transportation prediction model DynaMIT2.0 in both efficient method in structured traffic data and on-line state-update computing process by accelerated FD-EKF algorithm
- Utilized Grid Engine High Performance Clusters to parallelize DynaMIT2.0 algorithms in Singapore traffic study

PhysioNet Challenge: Heart Sound Recordings Classification | Visiting Student — **Los Angeles, USA**
Mentor: Yan Liu (Melady Lab, University of Southern California) — *Jun. 2016 - Aug. 2016*

- Participated in PhysioNet Challenge aiming to automatically label abnormal phonocardiogram (time series)
- Implemented clustering, SVM, logistic regression and revised-AlexNet with spectrogram features, current F1-score of 0.813 (Rank top 10 in competition)

Data-Driven Methods in Traffic Feature Analysis | Research Assistant — **Beijing, China**
Advisor: Zuo Zhang, Xin Pei (Tsinghua) — *Sept. 2015 - May 2016*

- Researched on transportation networks by using spatial and temporal data and applying web-indexing measurements (centrality/page rank) and specified key intersection to promote network facility and avoid congestion

Publications

[1] Tanachat Nilanon, Jiayu Yao, **Junheng Hao**, Yan Liu. "Normal/Abnormal Heart Sound Recordings Classification Using Convolutional Neural Network", *presented at Computing in Cardiology 2016* (CinC 2016)

[2] Chen-Shuo Sun, **Junheng Hao**, Xin Pei, Zuo Zhang. "A Data Driven Approach for Evaluation of Urban Accident Impacts", *presented at IEEE Conference on Intelligent Transportation Systems* (ITSC 2016)

[3] Chen-Shuo Sun, Xin Pei, **Junheng Hao**, Zuo Zhang. "Accident Impact Analysis in Traffic Safety and Mobility Using Group Network Features", *submitted to Accident Analysis and Prevention* (under review)

Activities

- ScAi Machine Learning Seminar: Introduction to GAN (Nov. 2017) [Slides]

Skills

- Programming Skills: Python, Java, C/C++, MATLAB, JavaScript, SQL, Unix shell scripting
- Operating system: Linux(Ubuntu)/Mac OS X
- Language: Mandarin(Native), English(Fluent), German (Basic), Spanish(Basic)