Jinning Li

PhD in Computer Science, University of Illinois at Urbana-Champaign

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Education

University of Illinois at Urbana-Champaign Aug 2020 - Present
Ph.D. Student in Computer Science.
Advisor: Prof. Tarek Abdelzaher. GPA 4.0/4.0

Shanghai Jiao Tong University Sep 2015 - Jun 2019
B.S. in Computer Science (Zhiyuan Honors Degree).
Advisors: Prof. Yong Yu and Prof. Xiaofeng Gao. GPA 3.7/4.0

Research Interests

Social Networks, Knowledge Graph, Natural Language Processing, Recommender Systems
Computer Vision, Autonomous Driving, Data Mining

Industry

Twitter | Applied Research Intern *Cortex Research Team* May - Aug 2022
- Enhanced tweet representation learning with a large-scale knowledge graph embedding of non-textual units. Achieved 2%-5% improvements on downstream tasks including hashtag/topic/sentiment prediction and information extraction. Published a paper.

Pony.ai | Machine Learning Engineer (Full-Time) *Perception Team* Jul 2019 - Aug 2020
- Fused obstacles (cars, trucks, pedestrians, cyclists) classification system with ResNet and Random Forest, and deployed the model inference with NVIDIA TensorRT.
- Real-time obstacle trajectory prediction for driveway with Random Forest and Recurrent Neural Networks. Reduced 8% disengagement and hard brake issues.

YITU Tech | Research Intern *Face Recognition Team* Feb - Jun 2019
- Improved face verification accuracy by 4.8% with the proposed identification-preserving super-resolution algorithm. Published a paper.

Publications

Unsupervised Belief Representation Learning with Variational Graph Auto-Encoders
Jinning Li, Huajie Shao, Dachun Sun, R. Wang, Y. Yan, J. Li, S. Liu, H. Tong, T. Abdelzaher
In *International ACM SIGIR Conference* (**SIGIR**) 2022

NTULM: Enriching Social Media Text Representations with Non-Textual Units
Jinning Li*, Shubhanshu Mishra*, Ahmed El-Kishky, Sneha Mehta, Vivek Kulkarni
In W-NUT Workshop at *International Conference on Computational Linguistics* (**COLING**) 2022

Learning to Sample and Aggregate: Few-shot Reasoning over Temporal Knowledge Graph
Ruijie Wang, Zheng Li, Dachun Sun, Shengzhong Liu, **Jinning Li**, Bing Yin, Tarek Abdelzaher
In *Thirty-sixth Conference on Neural Information Processing Systems* (**NIPS**) 2022

Cost Function Learning in Memorized Social Nets with Cognitive Behavioral Asymmetry
Yanbing Mao, **Jinning Li**, Naira Hovakimyan, Tarek Abdelzaher, Christian Lebiere
In *IEEE Transactions on Computational Social Systems* (**TCSS**) 2022

Dissecting Cross-Layer Dependency Inference on Multi-Layered Inter-Dependent Nets
Yuchen Yan, Qinghai Zhou, **Jinning Li**, Tarek Abdelzaher, and Hanghang Tong
In *International Conference on Information and Knowledge Management* (**CIKM**) 2022

Scribble-to-Painting Transformation with Multi-Task Generative Adversarial Networks
Jinning Li, Yexiang Xue
In *International Joint Conference on Artificial Intelligence* (**IJCAI**) 2019

Senti2Pop: Sentiment-Aware Topic Popularity Prediction on Social Media
Jinning Li, Yirui Gao, Xiaofeng Gao, Yan Shi, Guihai Chen
In *IEEE International Conference on Data Mining* (**ICDM**) 2019

DancingLines: An Analytical Scheme to Depict Cross-Platform Event Popularity
Tianxiang Gao, Weiming Bao, **Jinning Li**, X. Gao, B. Kong, Y. Tang, G. Chen, X. Li
In *International Conference on Database and Expert Systems Applications* (**DEXA**) 2018

ID Preserving Face Super-Resolution Generative Adversarial Networks
Jinning Li, Yichen Zhou, Jie Ding, Cen Chen, Xulei Yang
In *IEEE Access* 2020

Research Experience

University of Illinois at Urbana-Champaign *Social Sensing, Data Mining, NLP*
Ph.D. Student. Advisor: Prof. Tarek Abdelzaher — Aug 2020 - Present
- Unsupervised belief representation learning with VGAE on polarized networks.
- Developed DARPA Influence Campaign Awareness and SenseMaking system.

Purdue University *Computer Vision, GANs*
Research Intern. Advisor: Prof. Yexiang Xue — Sep - Dec 2018
- Oil painting arts generation with multi-task generative adversarial networks.

Cornell University *Counterfactual Machine Learning, Recommendation Systems*
Research Intern. Advisor: Prof. Thorsten Joachims — Jul - Aug 2018
- Rank 1 in Criteo Advertisement Placement Competition with the proposed model.

Shanghai Jiao Tong University *Data Mining for Social Networks*
Research Assistant. Advisor: Prof. Xiaofeng Gao — Jul 2017 - Jun 2019
- Cross-platform social popularity quantification and alignment.
- Sentiment-aware topic popularity prediction on social media.

Honors and Awards

Zhiyuan International Research Scholarship *(First Prize)*. 2019
Han-Ying-Ju-Hua Scholarship. 2018
Academic Excellence Scholarship of SJTU *(First Prize)*. 2017, 2018
International Interdisciplinary Contest in Modeling *(Meritorious Winner)*. 2017
Zhiyuan Honorary Scholarship. 2016, 2017
International Mathematical Contest in Modeling *(Outstanding Winner)*. 2015
Dongrun-Yau International High School Science Award. 2015

Academic Services

Teaching Assistant at CS122: Programming
Teaching Assistant at CS307: Operating System
Program Committee at AAAI Conference

Programming Proficiencies

C, C++, Java, Python (TensorFlow, PyTorch, MXNet)
SQL, BigQuery, HTML, Javascript, Matlab, LaTeX,