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 - May 2025
Ph.D. Candidate in Computer Science.
Advisor: Prof. Tarek Abdelzaher.

University of Illinois at Urbana-Champaign — Aug 2020 - Dec 2022
M.S. in Computer Science.
Advisor: Prof. Tarek Abdelzaher.

Shanghai Jiao Tong University — Sep 2015 - Jun 2019
B.S. in Computer Science (ACM Honors Class).
Advisors: Prof. Yong Yu and Prof. Xiaofeng Gao.

Research Interests

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

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

The Paradox of Information Access: On Modeling Polarization in the Age of Information
Chao Xu, Jinyang Li, D. Sun, **Jinning Li**, T. Abdelzaher, J. Graham, M. Macy, C. Lebiere, B. Szymanski
In *IEEE Transactions on Control of Network Systems* (**TCNS**) 2023

Measuring the Effect of Influential Messages on Varying Personas 📄
Chenkai Sun, **Jinning Li**, Hou Pong Chan, ChengXiang Zhai and Heng Ji
In *Annual Meeting of the Association for Computational Linguistics* (**ACL**) 2023

Noisy Positive-Unlabeled Learning with Self-Training for Knowledge Graph Reasoning 📄
Ruijie Wang, Baoyu Li, Yichen Lu, Dachun Sun, **Jinning Li**, Y. Yan, S. Liu, H. Tong and T. Abdelzaher
In *Annual Meeting of the Association for Computational Linguistics* (**ACL**) 2023

Unsupervised Image Classification by Ideological Affil. from User-Content Interactions 📄
Xinyi Liu, **Jinning Li**, D. Sun, R. Wang, T. Abdelzaher, M. Brown, A. Barricelli, M. Kirchner and A. Basharat
In PhoMemes Workshop at *AAAI Conference on Web and Social Media* (**ICWSM**) 2023

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 *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

ID Preserving Face Super-Resolution Generative Adversarial Networks 📄🎧

Jinning Li, Yichen Zhou, Jie Ding, Cen Chen, Xulei Yang

In *IEEE Access* 2020

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

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,