

Nan Jiang

Contact Information	Department of Computer Science	E-mail: jiang631@purdue.edu
	Purdue University, IN, USA	Mobile: (+1) 765-409-3423
Education	Purdue University , IN, USA	Aug 2018 – Present
	Ph.D. in Computer Science. Advisor: Yexiang Xue . Research Area: Automatic Reasoning for Machine Learning and Scientific Discovery.	
	Beihang University , Beijing, China	Sep 2015 – Jan 2018
	M.A.Eng. in Computer Science. Advisor: Wenge Rong . National Scholarship	
	Zhejiang University of Technology , Zhejiang, China	Sep 2011 – Jun 2015
	B.Eng. in Computer Science. Outstanding Graduate Student.	
Internship	Amazon Search , USA	May 2021 - Aug 2021, May 2020 - Aug 2020
	<i>Research Intern</i> Data annotation is expensive and is slow for web-scale data size for text-cleaning applications. We propose an efficient randomized model based on Locality-sensitive Hashing that requires no training dataset. The paper is published at TheWebConf 2022.	
	Microsoft Research Asia , Beijing, China	Dec 2016 - Sept 2017
	<i>Research Intern</i> Prior works on dialog generation only consider generating one answer for each question. We propose a dataset of multiple diverse answers for each question, to promote the model to generate diverse answers. This work was published at NAACL 2018.	
	Netease Inc. , Beijing, China	Jun 2016 - Dec 2016
	<i>Research Intern</i> Training language modeling is time-consuming because the vocabulary is of millions-sized. We propose an efficient model based on hierarchical softmax, reducing from $\mathcal{O}(V)$ to $\mathcal{O}(\log V)$ time complexity ($ V $ is the vocabulary size); This work is published at IJCAI, 2017.	
Honors	Kaggle - Quora Question Pairs. 8th out of 3295 teams	2017
	KDD Cup - Highway Tollgates Traffic Flow Prediction. 3rd out of 3547 teams	2017
	National Scholarship, Beihang University.	2017
	Excellent Graduation Student, Zhejiang University of Technology.	2015
	National Scholarship, Zhejiang University of Technology.	2012, 2013
Publications	Journal Articles	
	18 Nan Jiang , Jinzhao Li, Yexiang Xue. A Tighter Convergence Proof of Reverse Experience Replay . In <i>The Reinforcement Learning Journal</i> , 2024.	
	17 Nan Jiang , Maosen Zhang, Willem-Jan van Hoeve, Yexiang Xue. Constraint Reasoning Embedded in Structural Prediction . In <i>Journal of Machine Learning Research (JMLR)</i> , 2022. [JCR Q1].	
	16 Nan Jiang , Wenge Rong, Yifan Nie, Yikang Shen, Zhang Xiong. Event Trigger Identification with Noise Contrastive Estimation . In <i>IEEE/ACM Transactions on Computational Biology and Bioinformatics (TCBB)</i> , 2017. [JCR Q1] [Impact factor 3.6]	

- 15 Libin Shi, Wenge Rong, Shijie Zhou, **Nan Jiang**, and Zhang Xiong. [A dual channel class hierarchy based recurrent language modeling](#). *Neurocomputing*, 2020. [JCR Q2] [Impact factor 5.5]

Peer-reviewed Conference Articles

- 14 **Nan Jiang**, Md Nasim, Yexiang Xue. [Vertical Symbolic Regression via Deep Policy Gradient](#). In *Proceedings of the Thirty-Third International Joint Conference on Artificial Intelligence (IJCAI)*, 2024. [Oral] [Acceptance rate 14.5%]
- 13 **Nan Jiang**, Yexiang Xue. [Racing Control Variable Genetic Programming for Symbolic Regression](#). In *Thirty-Eighth AAAI Conference on Artificial Intelligence (AAAI)*, 2024. [Acceptance rate 23.75%]
- 12 **Nan Jiang**, Yexiang Xue. [Symbolic Regression via Control Variable Genetic Programming](#). In *Machine Learning and Knowledge Discovery in Databases: Research Track - European Conference (ECML/PKDD)*, 2023. [Oral] [Acceptance rate 24%]
- 11 Jinzhao Li, **Nan Jiang** and Yexiang Xue. [Solving Satisfiability Modulo Counting for Symbolic and Statistical AI Integration with Provable Guarantees](#). In *Thirty-Eighth AAAI Conference on Artificial Intelligence (AAAI)*, 2024. [Acceptance rate 23.75%]
- 10 **Nan Jiang**^{*}, Yi Gu^{*}, Yexiang Xue. [Learning Markov Random Fields for Combinatorial Structures via Sampling through Lovász Local Lemma](#). In *Thirty-Seventh AAAI Conference on Artificial Intelligence (AAAI)*, 2023. [Acceptance rate 19.6%]
- 9 **Nan Jiang**^{*}, Fan Ding^{*}, Jianzhu Ma, Jian Peng, Jinbo Xu, and Yexiang Xue. [PALM: Probabilistic Area Loss Minimization for Protein Sequence Alignment](#). In *Proceedings of the Thirty-Seventh Conference on Uncertainty in Artificial Intelligence (UAI)*, 2021. [Oral] [Acceptance rate: 26.5%]
- 8 Maosen Zhang, **Nan Jiang**, Lei Li, Yexiang Xue. [Language Generation via Combinatorial Constraint Satisfaction: A Tree Search Enhanced Monte-Carlo Approach](#). In *Findings of the Association for Computational Linguistics: (EMNLP)*, 2020. [Acceptance Rate 37.9%]
- 7 **Nan Jiang**, Chen Luo, Vihan Lakshman, Yesh Dattatreya, Yexiang Xue. [Massive Text Normalization via an Efficient Randomized Algorithm](#). In *The ACM Web Conference (WWW)*, 2022. [Acceptance rate 17.7%]
- 6 Zhen Xu, **Nan Jiang**, and etc. [LSDSCC: A Large Scale Domain-Specific Conversational Corpus for Response Generation with Diversity Oriented Evaluation Metrics](#). In *Proceedings of the 2018 Conference of the North American Chapter of the Association for Computational Linguistics: Human Language Technologies (NAACL-HLT)*, 2018. [Acceptance rate 29.4%]
- 5 **Nan Jiang**, Wenge Rong, Min Gao, Yikang Shen Zhang Xiong. [Exploration of Tree-based Hierarchical Softmax for Recurrent Language Models](#). In *Proceedings of the Twenty-Sixth International Joint Conference on Artificial Intelligence (IJCAI)*, 2017. [Acceptance rate 26.0%]
- 4 Yikang Shen, Wenge Rong, **Nan Jiang**, Baolin Peng, Jie Tang and Zhang Xiong. [Word Embedding Based Correlation Model for Question/Answer Matching](#). In *Proceedings of the Thirty-First AAAI Conference on Artificial Intelligence (AAAI)*, 2017. [Acceptance rate 24.6%]
- 3 Maxwell J Jacobson, Case Q Wright, **Nan Jiang**, Gustavo Rodriguez-Rivera, Yexiang Xue. [Task detection in continual learning via familiarity autoencoders](#). In *Proceedings of the IEEE International Conference on Systems, Man, and Cybernetics (SMC)*, 2022.

- 2 **Nan Jiang**, Wenge Rong, Baolin Peng, Yifan Nie, Zhang Xiong. [An empirical analysis of different sparse penalties for autoencoder in unsupervised feature learning](#). In *Proceedings of the 2015 International Joint Conference on Neural Networks (IJCNN)*, 2015.
- 1 **Nan Jiang**, Wenge Rong, Baolin Peng, Yifan Nie and Zhang Xiong. Modeling Joint Representation with Tri-Modal DBNs for Query and Question Matching. In *IEICE Transactions on Information and Systems*, 2015.

Skills

Programming Language: Python, C/C++, Java, Matlab;

Tools: Git, Vim, Markdown, Linux Bash;

Deep Learning Framework: Pytorch, JAX, Tensorflow, Keras, Numpy, Scipy