

# Nan Jiang | Resume

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## Education

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**Ph.D in Computer Science**, Purdue University 2020 – 2025 (expected)

*Advisor:* Lin Tan

*Awards:*

- Purdue Employee Merit Recognition Award<sup>1</sup>
- Maurice H. Halstead Memorial Award<sup>2</sup>

**B.S. in Computer Science**, Peking University 2015 – 2019

## Publications

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1. *CURE: Code-Aware Neural Machine Translation for Automatic Program Repair*  
**Nan Jiang**, Thibaud Lutellier, and Lin Tan.  
In Proceedings of the 43rd International Conference on Software Engineering, ICSE 2021
2. *KNOD: Domain Knowledge Distilled Tree Decoder for Automated Program Repair*  
**Nan Jiang**, Thibaud Lutellier, Yiling Lou, Lin Tan, Dan Goldwasser, and Xiangyu Zhang.  
In Proceedings of the 45th International Conference on Software Engineering, ICSE 2023
3. *Impact of Code Language Models on Automated Program Repair*  
**Nan Jiang**, Kevin Liu, Thibaud Lutellier, and Lin Tan.  
In Proceedings of the 45th International Conference on Software Engineering, ICSE 2023
4. *LeDex: Training LLMs to Better Self-Debug and Explain Code*  
**Nan Jiang**, Xiaopeng Li, Shiqi Wang, Qiang Zhou, Soneya Binta Hossain, Baishakhi Ray, Varun Kumar, Xiaofei Ma, and Anoop Deoras.  
In The Thirty-eighth Annual Conference on Neural Information Processing Systems, NeurIPS 2024
5. *LATTE: Improving Latex Recognition for Tables and Formulae with Iterative Refinement*  
**Nan Jiang**, Shanchao Liang, Chengxiao Wang, Jiannan Wang, Lin Tan  
In The 39th Annual AAAI Conference on Artificial Intelligence, AAAI 2025
6. *Nova: Generative Language Models for Assembly Code with Hierarchical Attention and Contrastive Learning*  
**Nan Jiang**, Chengxiao Wang, Kevin Liu, Xiangzhe Xu, Lin Tan, Xiangyu Zhang, and Petr Babkin.  
In The Thirteenth International Conference on Learning Representations, ICLR 2025
7. *How Effective Are Neural Networks for Fixing Security Vulnerabilities?*  
Yi Wu, **Nan Jiang**, Hung Viet Pham, Thibaud Lutellier, Jordan Davis, Lin Tan, Petr Babkin, and Sameena Shah.  
In Proceedings of the 32nd International Symposium on Software Testing and Analysis, ISSTA 2023
8. *ReSym: Harnessing LLMs to Recover Variable and Data Structure Symbols from Stripped Binaries*  
Danning Xie, Zhuo Zhang, **Nan Jiang**, Xiangzhe Xu, Lin Tan, and Xiangyu Zhang.  
In Proceedings of the 2024 ACM SIGSAC Conference on Computer and Communications Security, CCS 2024  
Won ACM SIGSAC Distinguished Paper
9. *A Deep Dive into Large Language Models for Automated Bug Localization and Repair*  
Soneya Binta Hossain, **Nan Jiang**, Qiang Zhou, Xiaopeng Li, Wen-Hao Chiang, Yingjun Lyu, Hoan Nguyen, and Omer Tripp.  
In Proceedings of the International Conference on the Foundations of Software Engineering, FSE 2024
10. *Show Me Why It's Correct: Saving 1/3 of Debugging Time in Program Repair with Interactive Runtime Comparison*

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<sup>1</sup><https://www.purdue.edu/newsroom/purduetoday/2023/Q4/university-announces-additional-details-on-employee-recognition-plan/>

<sup>2</sup>[https://www.cs.purdue.edu/news/articles/2024/2024\\_purdue\\_cs\\_awards.html](https://www.cs.purdue.edu/news/articles/2024/2024_purdue_cs_awards.html)

Ruixin Wang, Zhongkai Zhao, Le Fang, **Nan Jiang**, Yiling Lou, Lin Tan, and Tianyi Zhang.  
In Proceedings of the ACM on Programming Languages, OOPSLA 2025

11. *SELP: Generating Safe and Efficient Task Plans for Robot Agents with Large Language Models*  
Yi Wu, Zikang Xiong, Yiran Hu, Shreyash S. Iyengar, **Nan Jiang**, Aniket Bera, Lin Tan, Suresh Jagannathan  
In 2025 International Conference on Robotics and Automation, ICRA 2025
12. *Impact of Large Language Models on Generating Software Specifications*  
Danning Xie, Byungwoo Yoo, **Nan Jiang**, Mijung Kim, Lin Tan, Xiangyu Zhang, Judy S. Lee  
In 2025 IEEE International Conference on Software Analysis, Evolution and Reengineering, SANER 2025
13. *Unleashing the Power of Generative Model in Recovering Variable Names from Stripped Binary*  
Xiangzhe Xu, Zhuo Zhang, Zian Su, Ziyang Huang, Shiwei Feng, Yapeng Ye, **Nan Jiang**, Danning Xie, Siyuan Cheng, Lin Tan, and Xiangyu Zhang.  
In Proceedings of the Network and Distributed System Security Symposium, NDSS 2025
14. *Quantifying the Spatial Homogeneity of Urban Road Networks via Graph Neural Networks*  
Jiawei Xue, **Nan Jiang**, Senwei Liang, Qiyuan Pang, Takahiro Yabe, Satish V. Ukkusuri, and Jianzhu Ma.  
Nature Machine Intelligence 4, 3 (March 2022), Journal

## Preprints

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1. *Collu-Bench: A Benchmark for Predicting Language Model Hallucinations in Code*  
**Nan Jiang**, Qi Li, Lin Tan, Tianyi Zhang  
Under Review. <https://arxiv.org/abs/2410.09997>
2. *WAFFLE: Multi-Modal Model for Automated Front-End Development*  
Shanchao Liang, **Nan Jiang**, Shangshu Qian, Lin Tan  
Under Review. <https://arxiv.org/abs/2410.18362>
3. *Can Language Models Replace Programmers? REPOCOD Says 'Not Yet'*  
Shanchao Liang, Yiran Hu, **Nan Jiang**, Lin Tan  
Under Review. <https://arxiv.org/abs/2410.21647>

## Internship

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**Research Scientist Intern**, AWS CodeWhisperer Team, Amazon

*Topic:* Training LLMs to self-debug code generation with reinforcement learning

Summer 2023

*Publication:* LeDex: Training LLMs to Better Self-Debug and Explain Code (NeurIPS 2024)

## Teaching

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Teaching Assistant, CS408 Software Testing	Fall 2023, Fall 2022
Teaching Assistant, CS251 Data Structures and Algorithm	Spring 2021
Teaching Assistant, CS380 Python Programming	Fall 2020
Teaching Assistant, CS180 Problem Solving and Object-Oriented Programming	Spring 2020

## Services

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PC Member, ICLR 2025

PC Member, Workshop on Automated Program Repair (Co-located with ICSE 2025)

PC Member, ASE 2024 Artifact Evaluation Track

PC Member, SCAM 2024 Research Track

PC Member, FSE 2023 Artifact Evaluation Track

Reviewer, TSE 2024 (four times), TSE 2025

Reviewer, TOSEM 2023, TOSEM 2024 (six times)

Reviewer, Open Research Europe 2024