# Nan Chen

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## EDUCATION

**Johns Hopkins University** **Aug. 2024 –**
*Ph.D. Student, Applied Mathematics and Statistics.* *Baltimore, US*

**National University of Singapore** **Aug. 2020 – Jan. 2022**
*Master of Science, Computer Science (CAP 4.64 / 5.0).* *Singapore*

**Sun Yat-Sen University** **Aug. 2016 – Jun. 2020**
*Bachelor of Engineering, Computer Science (GPA 3.8/4.0).* *Guangzhou, China*

## ACADEMIC POSITIONS

**School of Computing, National University of Singapore** **Mar. 2022 – April. 2024**
*Research Assistant.* *Singapore*

## PUBLICATIONS

**Training-Free versus Training-Based Intent Classification in LLMs: Accuracy, Robustness, and Failure Modes**. ***Nan Chen****, Zhouhao Yang, Soufiane Hayou.* In The Third Conference on Language Modeling (CoLM), 2026.

**Learning Rate Scaling across LoRA Ranks and Transfer to Full Finetuning**. ***Nan Chen****, Soledad Villar, Soufiane Hayou.* In The Forty-third International Conference on Machine Learning (ICML), 2026.

**$\mu$pscaling small models: Principled warm starts and hyperparameter transfer**. *Yuxin Ma,* ***Nan Chen****, Mateo Diaz, Soufiane Hayou, Dmitriy Kunisky, Soledad Villar.* In The Forty-third International Conference on Machine Learning (ICML), 2026.

**NodeImport: Imbalanced Node Classification with Node Importance Assessment**. ***Nan Chen****, Zemin Liu, Bryan Hooi, Bingsheng He, Jun Hu, Jia Chen.* In Proceedings of the 31st ACM SIGKDD Conference on Knowledge Discovery and Data Mining V.1, KDD, 2025.

**FlowHON: Representing Flow Fields Using Higher-Order Networks**. ***Nan Chen****, Zhihong Li, and Jun Tao.* IEEE Transactions on Visualization and Computer Graphics, TVCG, 2025.

**A Survey of Imbalanced Learning on Graphs: Problems, Techniques, and Future Directions**. *Zemin Liu, Yuan Li,* ***Nan Chen****, Qian Wang, Bryan Hooi, and Bingsheng He.* IEEE Transactions on Knowledge and Data Engineering, TKDE, 2025.

**Extracting information from fine-tuned weights**. ***Nan Chen****, Hayden Helm, Youngser Park, Carey Priebe, Soledad Villar.* In Non-Euclidean Foundation Models (NEGEL) NeurIPS Workshop, 2025.

**Consistency Training with Learnable Data Augmentation for Graph Anomaly Detection with Limited Supervision**. ***Nan Chen****, Zemin Liu, Bryan Hooi, Bingsheng He, Rizal Fathony, Jun Hu, and Jia Chen.* In The twelfth international conference on learning representations, ICLR, 2024 (Spotlight Award).

**SE(3)-Equivariant Self-Attention via Invariant Features**. ***Nan Chen*** *and Soledad Villar.* In Machine Learning for Physics NeurIPS Workshop, 2022.

## UNDER REVIEW

**Precision-Aware Learning Rate Transfer Across Block Count in LLM Post-Training**. ***Nan Chen****, Soledad Villar, Soufiane Hayou.* Under review for ICLR 2027.

**Not All Rank Is Useful: Rethinking Effective Capacity in LoRA**. *Mehdi Khfifi,* ***Nan Chen****, Soufiane Hayou.* Under review for AISTATS 2027.

## TECHNICAL SKILLS

**Programming:** Python, C/C++, CUDA, Java.
**Deep Learning & LLMs:** PyTorch, Hugging Face Transformers, PEFT, TRL.
**Distributed Training:** DeepSpeed, PyTorch DDP, Hugging Face Accelerate.
**Inference & Evaluation:** vLLM, lm-evaluation-harness.
**Scientific Computing:** NumPy, SciPy, pandas, scikit-learn.
**Research Workflow:** Linux, Git, Docker, Slurm.