

Penghui Yang

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Education

Nanyang Technological University, PhD in Artificial Intelligence Aug 2024 – present
Nanjing University of Aeronautics and Astronautics, BS in Computer Science Sept 2019 – June 2023

Experience

Project Officer, Nanyang Technological University – Singapore Oct 2023 – Aug 2024
Associate Member, Sea AI Lab – Singapore Oct 2024 – Jan 2026

Publications

Multi-Label Knowledge Distillation 2023
Penghui Yang, Ming-Kun Xie, Chen-Chen Zong, Lei Feng, Gang Niu, Masashi Sugiyama, Sheng-Jun Huang
[10.1109/ICCV51070.2023.01584](https://arxiv.org/abs/2023.01584) (ICCV'23)

Sailor2: Sailing in South-East Asia with Inclusive Multilingual LLMs 2025
 Longxu Dou, Qian Liu, Fan Zhou, Changyu Chen, Zili Wang, Ziqi Jin, Zichen Liu, Tongyao Zhu, Cunxiao Du, **Penghui Yang**, Haonan Wang, Jiaheng Liu, Yongchi Zhao, Xiachong Feng, Xin Mao, Man Tsung Yeung, Kunat Pipatanakul, Fajri Koto, Min Si Thu, Hynek Kydlíček, Zeyi Liu, Qunshu Lin, Sittipong Sripaisarnmongkol, Kridtaphad Tran, Mike Zhang, Shiqi Chen, Tianyu Pang, Chao Du, Xinyi Wan, Wei Lu, Min Lin
[10.48550/arXiv.2502.12982](https://arxiv.org/abs/2502.12982) (arXiv preprint arXiv:2502.12982)

LongSpec: Long-Context Lossless Speculative Decoding with Efficient Drafting and Verification 2025
Penghui Yang, Cunxiao Du, Fengzhuo Zhang, Haonan Wang, Tianyu Pang, Chao Du, Bo An
[10.48550/arXiv.2502.17421](https://arxiv.org/abs/2502.17421) (ES-FoMo III: 3rd Workshop on Efficient Systems for Foundation Models)

A Unified Open Adapter for Open-World Noisy Label Learning: Data-Centric and Learning-Based Insights 2025
 Chen-Chen Zong, **Penghui Yang**, Ming-Kun Xie, Sheng-Jun Huang
[10.1109/TCSVT.2025.3550899](https://arxiv.org/abs/2025.3550899) (TCSVT'25)

FLAIN: Mitigating Backdoor Attacks in Federated Learning via Flipping Weight Updates of Low-Activation Input Neurons 2025
 Binbin Ding, **Penghui Yang**, Sheng-Jun Huang
[10.1145/3731715.3733342](https://arxiv.org/abs/231715.3733342) (ICMR'25)

Dual-head Knowledge Distillation: Enhancing Logits Utilization with an Auxiliary Head 2025
Penghui Yang, Chen-Chen Zong, Sheng-Jun Huang, Lei Feng, Bo An
[10.1145/3711896.3736915](https://arxiv.org/abs/2311896.3736915) (SIGKDD'25)

FedDLAD: A Federated Learning Dual-Layer Anomaly Detection Framework for Enhancing Resilience Against Backdoor Attacks 2025
 Binbin Ding, **Penghui Yang**, Sheng-Jun Huang
[10.24963/ijcai.2025/559](https://arxiv.org/abs/2025/559) (IJCAI'25)

AutoMAT: A Hierarchical Framework for Autonomous Alloy Discovery 2025
Penghui Yang, Chendong Zhao, Bijun Tang, Zhonghan Zhang, Xinrun Wang, Yanchen Deng, Yuhao Lu, Cuntai Guan, Zheng Liu, Bo An

[10.48550/arXiv.2507.16005](https://arxiv.org/abs/2507.16005) (arXiv preprint arXiv:2507.16005)

MATAI: A Generalist Machine Learning Framework for Property Prediction and Inverse Design of Advanced Alloys

2025

Yanchen Deng, Chendong Zhao, Yixuan Li, Bijun Tang, Xinrun Wang, Zhonghan Zhang, Yuhao Lu, **Penghui Yang**, Jianguo Huang, Yushan Xiao, Cuntai Guan, Zheng Liu, Bo An

[10.48550/arXiv.2511.10108](https://arxiv.org/abs/2511.10108) (arXiv preprint arXiv:2511.10108)

Anatomy of a Hybrid Mind: Deconstructing Hybrid Reasoning in Large Language Models

2025

Penghui Yang, Fengzhuo Zhang, Yifan Hou, Tianyu Pang, Cunxiao Du, Bo An, Chao Du
openreview.net/forum?id=zfZxymLbSv (OpenReview)