

ABOUT ME

Hi, I'm Lu, an Assistant Professor at the **University of Aberdeen** and a long-term Visiting Researcher at **Eindhoven University of Technology**. My research goal is to enhance the efficiency and scalability of AI models. I believe that passion and persistence are the keystones of groundbreaking research, and I am committed to delivering research of unparalleled quality.

WORK EXPERIENCE

- Aberdeen University**
11/2023 – Present
 - Assistant Professor**
 - Teaching and Mentor Master/Ph.D. students.
 - Secure grants.
 - Research area: AI Efficiency, AI for Science, Large Language Models
- Google, New York Office**
07/2023 – 09/2023
 - AI Researcher (Intern)**
 - Build efficient large language models (LLM)
- Eindhoven University of Technology**
07/2023 – 11/2023
 - Postdoctoral Researcher**
 - Mentor Master/Ph.D. students.
 - Publish research findings.

EDUCATION

- Eindhoven University of Technology**
10/2018 - 2/2023
 - Ph.D in Computer Science**
 - Department:** Mathematics and Computer Science
 - Specialization:** Knowledge Elicitation, Data Efficiency, Model Efficiency
 - Promotors:** Prof. Dr. Mykola Pechenizkiy; Dr. Vlado Menkovski
- Harbin Institute of Technology (Shenzhen)**
09/2015 - 07/2018
 - Master in Control Engineering**
 - Department:** Mechanical Engineering and Automation
 - Specialization:** Computer Vision, Robotics
 - Promotors:** Prof. Dr.Xiaorui Zhu
- Harbin Institute of Technology**
09/2009 - 07/2013
 - Bachelor in Electrical Engineering and Automation**
 - Department:** Information and Electrical Engineering

AWARDS AND HONOURS

- 12/2022 Best Paper Award at Learning on Graphs Conference (LoG). 2022.
- 06/2017 Best Paper Nomination Award at International Conference on Computer Vision Systems (ICVS), 2017

GRANT

high-performance computing grant

- 2022 EINF-2694: HPC Cloud (CPU): 50.000 hr,
HPC Cloud (GPU: NVIDIA GeForce RTX 3080 Ti): 10,000 hr
- 2022 EINF-2943: NVIDIA A100, 1,000,000 Credits (7,812 hr)
- 2023 EINF-5205: HPC Cloud (GPU: NVIDIA GeForce RTX 3080 Ti): 10,000 hr
- 2023 EINF-5206: NVIDIA A100, 1,000,000 Credits (7,812 hr)
- 2023 NWO-2023.060/L1: NVIDIA A100, 10,000,000 Credits (78,120 hr)

RESEARCH & SELECTED PUBLICATION

- **Lu Yin**, Gen Li, Meng Fang, Li Shen, Tianjin Huang, Zhangyang Wang, Vlado Menkovski, Xiaolong Ma, Mykola Pechenizkiy, Shiwei Liu. Dynamic Sparse Training Is also A Structure Sparsity Learner. ICLR 2023 Workshop on Sparsity in Neural Networks. Conference on Neural Information Processing Systems (**NeurIPS**), 2023
- **Lu Yin**, Shiwei Liu, Fang Meng, Tianjin Huang, Vlado Menkovski, Mykola Pechenizkiy. Lottery Pools: Winning More by Interpolating Tickets without Increasing Training or Inference Cost. Thirty-Seventh AAAI Conference on Artificial Intelligence (**AAAI**), 2023.
- **Lu Yin**, Vlado Menkovski, Meng Fang, Tianjin, Huang, Yulong Pei, Mykola Pechenizkiy, Decebal Constantin Mocanu, Shiwei Liu. Superposing Many Tickets into One: A Performance Booster for Sparse Neural Network Training. The 38th Conference on Uncertainty in Artificial Intelligence (**UAI**). 2022.
- Shiwei Liu, **Lu Yin**, Decebal Constantin Mocanu, and Mykola Pechenizkiy. *Do We Actually Need Dense Over-Parameterization? In-Time Over-Parameterization in Sparse Training*. The Thirty-eighth International Conference on Machine Learning (**ICML**), PMLR, 2021.
- Tianjin Huang, **Lu Yin**, Zhenyu Zhang, Li Shen, Meng Fang, Mykola Pechenizkiy, Zhangyang Wang, Shiwei Liu. *Are Large Kernels Better Teachers than Transformers for ConvNets?* International Conference on Machine Learning (**ICML**), PMLR, 2023.
- Tianjin Huang, Tianlong Chen, Meng Fang, Vlado Menkovski, Jiaxu Zhao, **Lu Yin**, Yulong Pei, Decebal Constantin Mocanu, Zhangyang Wang, Mykola Pechenizkiy, Shiwei Liu. *You Can Have Better Graph Neural Networks by Not Training Weights at All: Finding Untrained GNNs Tickets*. Learning on Graphs Conference (**LoG**). 2022. (**BEST PAPER AWARD**)
- Shiwei Liu, Tianlong Chen, Xiaohan Chen, Zahra Atashgahi, **Lu Yin**, Huanyu Kou, Li Shen, Mykola Pechenizkiy, Zhangyang Wang, and Decebal Constantin Mocanu. *Sparse Training via Boosting Pruning Plasticity with Neuroregeneration*. The Thirty-fifth Conference on Neural Information Processing Systems (**NeurIPS**), 2021
- Zahra Atashgahi, Xuhao Zhang, Neil Kichler, Shiwei Liu, **Lu Yin**, Mykola Pechenizkiy, Raymond Veldhuis, Decebal Constantin Mocanu. *Supervised Feature Selection with Neuron Evolution in Sparse Neural Networks*. Transactions on Machine Learning Research (**TMLR**).

- **Lu Yin**, Vlado Menkovski, Mykola Pechenizkiy. *Knowledge Elicitation using Deep Metric Learning and Psychometric Testing*. The European Conference on Machine Learning and Principles and Practice of Knowledge Discovery in Databases (**ECML-PKDD**), Ghent, Belgium, 2020.
- Jiaxu Zhao*, **Lu Yin***, Shiwei Liu, Fang Meng. Mykola Pechenizkiy. *REST: Debiasing Deep Neural Networks through Reweighted Sparse Training*. The European Conference on Machine Learning and Principles and Practice of Knowledge Discovery in Databases (**ECML-PKDD**). Turin, Italy, 2023. *equal contribution
- Tianjin Huang, Shiwei Liu, Tianlong Chen, Meng Fang, Li Shen, Vlado Menkovski, **Lu Yin**, Yulong Pei, Mykola Pechenizkiy. *Enhancing Adversarial Training via Reweighting Optimization Trajectory*. The European Conference on Machine Learning and Principles and Practice of Knowledge Discovery in Databases (**ECML-PKDD**). Turin, Italy, 2023.
- **Lu Yin**. *Beyond Labels: Knowledge Elicitation using Deep Metric Learning and Psychometric Testing*. 29th International Joint Conference on Artificial Intelligence-17th Pacific Rim International Conference on Artificial Intelligence (**IJCAI DC**), 2020. Doctoral Consortium.
- **Lu Yin**, Vlado Menkovski, Shiwei Liu, and Mykola Pechenizkiy. *Hierarchical Semantic Segmentation using Psychometric Learning*. The Thirteenth Asian Conference on Machine Learning (**ACML**), 2021. (**LONG ORAL**)
- **Lu Yin**, Vlado Menkovski, Yulong Pei, and Mykola Pechenizkiy. *Semantic-Based Few-Shot Learning by Interactive Psychometric Testing*. The Workshop on Interactive Machine Learning. The Thirty-Sixth AAAI Conference on Artificial Intelligence (**AAAI Workshop**), 2022
- **Lu Yin**, Vlado Menkovski, Yulong Pei, and Mykola Pechenizkiy. *Semantic-Based Few-Shot Learning by Psychometric Testing*. International Symposium on Intelligent Data Analysis (**IDA**). Springer, Cham, 2022.
- Fucheng Deng, Xiaorui Zhu, **Lu Yin**, Chao H, *Real-Time Detection of Polygons and Circles Based on Semantics*. 2018 IEEE International Conference on Information and Automation (**ICIA**). IEEE, 2018: 444-449.
- Xiaorui Zhu, **Lu Yin**, Fucheng Deng. *Wind Disturbance Rejection in Position Control of Unmanned Helicopter by Nonlinear Damping*. International Conference on Computer Vision Systems (**ICVS**). Springer, Cham, 2017: 590-599. (**BEST PAPER NOMINEES AWARD**)

More in: <https://scholar.google.com/citations?user=G4Xe1NkAAAAJ>

RESEARCH ACTIVITIES

Talks:

- Going beyond training ML models with labels at EDGE AI, Eindhoven University of Technology [2020]
- Model/supervision Efficiency at Xu Lab, Carnegie Mellon University [2022]
- LLM pruning, Visual Informatics Group @ University of Texas at Austin [2023]

Conference Program Committee Member/Reviewer:

- NeurIPS, ICML, CVPR, SNN workshop. Reviewer.
- The European Conference on Machine Learning (ECML) [2020]. Session chair.

HOBBIES

- Fitness
- Photography
- Reading