

LU YIN

P H . D C A N D I D A T E

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ABOUT ME

- Ph.D. in artificial intelligence and machine learning with a focus on improving the efficiency and scalability of AI models.
- Strong publication record and ability to communicate complex technical concepts.
- Passionate about innovation and delivering high-quality results.

EDUCATION

●	Eindhoven University of Technology 10/2018 - 02/2023 - Netherlands	Ph.D in Computer Science Department: Mathematics and Computer Science Specialization: Knowledge Elicitation, Data Efficiency, Model Efficiency Promoters: Prof. Dr. Mykola Pechenizkiy; Dr. Vlado Menkovski
●	Harbin Institute of Technology (Shenzhen Graduate School) 09/2015 - 07/2018 - China	Master in Control Engineering Department: Mechanical Engineering and Automation Specialization: Computer Vision, Robotics Promoters: Prof. Dr.Xiaorui Zhu
●	Harbin Institute of Technology 09/2009 - 07/2013 - China	Bachelor in Electrical Engineering and Automation Department: Information and Electrical Engineering

RESEARCH INTERESTS

- **Model Efficiency:** Achieve matching or better performance of full dense model using significantly fewer parameters, e.g.sparse neural network training, neural network pruning.
- **Data Efficiency:** Leverage limited labels/supervision for model training, e.g. active learning, few-shot learning.

AWARDS AND HONOURS

- 12/2022 Best Paper Award at Learning on Graphs Conference (LoG). 2022.
- 10/2018 Fundings , Four-years Ph. D. funding, Chinese Scholarship Council
- 12/2022 Best Paper Nomination Award at International Conference on Computer Vision Systems (ICVS), 2017

WORK EXPERIENCE

- Eindhoven University of Technology
04/2020 – 06/2022
Teaching Assistant of Deep Learning Course
 - Develop the tutorials for PyTorch, CNN model and Word Embedding
 - Develop and grade the assignments bedding
 - Record the lectures video for more than 200 students
- Harbin Institute of Technology
(Shenzhen Graduate School)
08/2016 – 01/2017
Teaching Assistant of Deep Learning Course
 - Prepare lecture slides for Forward Propagation and CNN
 - Grade the assignments
- DaDao Intelligence & Innovation
Technology Co., Ltd
05/2016 – 07/2016
Embedded System Engineer
 - Control the speed and direction of a patrol robot by STM32

RESEARCH & SELECTED PUBLICATION

- **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, 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
- 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.
- 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**)

Preprint

- **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*. Coming Soon.
- 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? (* equal contibution)*
- Tianjin Huang, Shiwei Liu, Tianlong Chen, Meng Fang, Li Shen, Vlado Menkovski, **Lu Yin**, Yulong Pei, Mykola Pechenizkiy. *In-Time Refining Optimization Trajectories Toward Improved Robust Generalization*. Coming Soon.
- Zahra Atashgahi, Xuhao Zhang, Neil Kichler, Shiwei Liu, **Lu Yin**, Mykola Pechenizkiy, Raymond Veldhuis, Decebal Constantin Mocanu. *Feature Selection with Neuron Evolution*. Coming Soon.
- Qiao Xiao, Boqian Wu, **Lu Yin**, Mykola Pechenizkiy, Decebal Constantin Mocanu. *Can Less Yield More Insights into Truly Sparse*. Coming Soon.

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]

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