LU YIN

PH.D candidate in computer science

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ABOUT ME

- Ph.D. candidate with a focus on improving the efficiency and scalability of Deep/Machine Learning models.
- Strong publication record in **top-tier conferences** such as **AAAI, UAI, ICML, and NeurIPS.**
- Adept in communicating complex technical concepts.
- A true innovator who is committed to delivering unparalleled quality results.

EDUCATION

Eindhoven University of Technology
10/2018 - Present - Netherlands

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 - China

Master in Control Engineering

Department: Mechanical Engineering and Automation
Specialization: Computer Vision, Robotics
Promotors: Prof. Dr.Xiaorui Zhu

Harbin Institute of Technology
(Weihai)
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
- 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

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. S*parse 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**