LU YIN

Email: l.yin@tue.nl
Tel: +31 06 12742861
University: Eindhoven University of Technology
Webpage: https://luuyin.github.io
Address: MetaForum, 5612 AZ Eindhoven, The Netherlands

EDUCATION

10/2018 – present   **Eindhoven University of Technology**

PhD Computer Science

Department: Mathematics and Computer Science

Specialization: Sparse Training, Data Efficiency, Interactive Machine Learning.

Promotors: Prof. Dr. Mykola Pechenizkiy; Dr. Vlado Menkovski

09/2015 – 07/2018   **Harbin Institute of Technology Shenzhen Graduate School**

M.Eng Control Engineering

Department: Mechanical Engineering and Automation

Specialization: Control Engineering, Robotics

Advisor: Prof. Dr. Xiaorui Zhu

09/2009 – 07/2013   **Harbin Institute of Technology**

B.Eng Electrical Engineering and Automation

Department: Information and Electrical Engineering

RESEARCH INTERESTS

Deep Learning, Sparse Neural Network Training, Neural Network Pruning, Metric Learning, Few-shot learning, Active Learning

AWARDS AND HONOURS

10/2018   Scholarship, Four-years Ph. D. founding, Chinese Scholarship Council

07/2016   Scholarship, Second-class Scholarship, Harbin Institute of Technology

07/2015   Scholarship, Second-class Scholarship, Harbin Institute of Technology

09/2015   Excellent Student Leader, Harbin Institute of Technology

09/2012   Excellent innovation ability certification, Beijing Jiaotong University

WORK EXPERIENCE

04/2022 – 06/2022   **Eindhoven University of Technology**

04/2021 – 06/2021   *Teaching Assistant of Deep Learning Course*

04/2020 – 06/2020

- Develop the tutorials for Pytorch, CNN model and Word Embedding

- Develop and grade the assignments

- Record the lectures video for more than 200 students

08/2016 – 01/2017   **Harbin Institute of Technology Shenzhen Graduate School**

Teaching Assistant of Deep Learning Course

- Prepare lecture slides for Forward Propagation and CNN model

- Grade the assignments

05/2016 – 07/2016   **DaDao Intelligence & Innovation Technology Co., Ltd**

Embedded Systems Engineer

- Controlling the speed and direction of a patrol robot by STM32

RESEARCH & PUBLICATION

Model Efficiency and Sparse Training

- **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.

- 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. **(Oral Presentation)**

- 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.

- 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.

Data Efficiency and Knowledge Elicitation

- **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**), 2022

- **Lu Yin**, Vlado Menkovski, Yulong Pei, and Mykola Pechenizkiy. *Semantic Based Few-Shot Learning by Psychometric Testing. The Workshop on Interactive Machine Learning*. The Intelligent Data Analysis symposium (**IDA**), 2022

Others

- 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**)

Preprint

- 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 Graph Tickets*. Coming Soon

- 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 with labels for Edge AI ML models, in EDGE AI, TU/e [2020]

Conference Program Committee Member/Reviewer:

The European Conference on Machine Learning (ECML) [2020]. Session chair.

The European Conference on Machine Learning (ECML) [2020]. Reviewer.

Symposium on Intelligent Data Analysis (IDA) [2018]. Volunteer.

Workshop Reviewer:

Sparsity in Neural Networks: Advancing Understanding and Practice 2021