**LU YIN**

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University: Eindhoven University of Technology

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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](https://arxiv.org/search/cs?searchtype=author&query=Huang,+T), [Tianlong Chen](https://arxiv.org/search/cs?searchtype=author&query=Chen,+T), [Meng Fang](https://arxiv.org/search/cs?searchtype=author&query=Fang,+M), [Vlado Menkovski](https://arxiv.org/search/cs?searchtype=author&query=Menkovski,+V), [Jiaxu Zhao](https://arxiv.org/search/cs?searchtype=author&query=Zhao,+J), **[Lu Yin](https://arxiv.org/search/cs?searchtype=author&query=Yin,+L)**, [Yulong Pei](https://arxiv.org/search/cs?searchtype=author&query=Pei,+Y), [Decebal Constantin Mocanu](https://arxiv.org/search/cs?searchtype=author&query=Mocanu,+D+C), [Zhangyang Wang](https://arxiv.org/search/cs?searchtype=author&query=Wang,+Z), [Mykola Pechenizkiy](https://arxiv.org/search/cs?searchtype=author&query=Pechenizkiy,+M), [Shiwei Liu](https://arxiv.org/search/cs?searchtype=author&query=Liu,+S). 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