Tianjin Huang

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EDUCATION

Eindhoven University of Technology(Tu/e) *August 2018 – Feb. 2023*

Doctoral Candidate (Ph.D)

Department: Mathematics and Computer Science

Specialization: Deep learning, Adversarial attack, Adversarial robustness, Anomaly detection, Graph Neural Networks, Sparse Training.

Promotors: Prof. Mykola Penchenizkiy, Dr. Vlado Menkovski, Dr. Yulong Pei

University of Chinese Academy of Sciences *September 2014 – July 2017*

Master of Science (M.Sc)

Department: Cartography and Geographic Information System

Specialization: Lake/Glaciers Extraction, Time series Analysis

Advisor: Prof. Li Jia

Northwest University *September 2010 – July 2014*

Bachelor of Science (B.S.)

Department: Cartography and Geographic Information System, Rank: 4/31

RESEARCH INTERESTS

Deep learning, Adversarial examples, Adversarial robustness, Graph Neural Networks, Efficient learning.

WORK EXPERIENCE

Postdoctor At Tu/e *Oct. 2022 – Now*

- Develop trustworthy models

Doctoral Researcher *August 2018 – Feb. 2023*

- Adversarial examples & Adversarial Robustness & Anomaly detection

Teaching Assistant *April 2020 – June 2020*

- Develop assignments and record the lectures for Deep Learning Course.

AWARDS AND HONORS

Scholarship	Four-years PhD. Founding, China Scholarship Council	2017.6
Scholarship	Third-class scholarship, Northwest University, China	2013.6
Scholarship	Third-class scholarship, Northwest University, China	2012.6
Scholarship	First-class scholarship, Northwest University, China	2011.6
Honor	Excellent student award, RADI, Chinese Academy of Science	2015.12
Honor	First-class award in computer competition, Northwest University	2012.9

PUBLICATIONS (* denotes equal contribution**)**

Adversarial Examples & Adversarial Robustness

- **Tianjin Huang,** Vlado Menkovski, Yulong Pei, Yuhao Wang, Mykola Pechenizkiy. "Direction-aggregated attack for transferable adversarial examples." ACM Journal on Emerging Technologies in Computing Systems **(JETC)** 18.3 (2022): 1-22.
- **Tianjin Huang,** Vlado Menkovski, Yulong Pei, Mykola Pechenizkiy. "calibrated adversarial training." Asian Conference on Machine Learning **(ACML)**. PMLR, 2021.
- **Tianjin Huang,** Vlado Menkovski, Yulong Pei, Mykola Pechenizkiy. "On Generalization of Graph Autoencoders with Adversarial Training." Joint European Conference on Machine Learning and Knowledge Discovery in Databases **(ECML)**. Springer, 2021.
- **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”, **ECML 2023**.
- **Tianjin Huang,** Yu Pei, Vlado Menkovski, Mykola Pechenizkiy. "Hop-count based self-supervised anomaly detection on attributed networks." Joint European Conference on Machine Learning and Knowledge Discovery in Databases **(ECML)**. Springer, 2022.
- Yulong Pei, **Tianjin Huang,** W. Ipenburg, Mykola Pecheniky. "ResGCN: attention-based deep residual modeling for anomaly detection on attributed networks." **Machine Learning** 111.2 (2022): 519-541.

Sparse Model & Compression

- **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”, **LoG 2022, Oral & Best Paper Award**.

- Yin Lu, 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." Uncertainty in Artificial Intelligence **(UAI)**, 2022.
- Yin Lu, Shiwei Liu, Fang Meng, **Tianjin Huang**, Vlado Menkovski, Mykola Pechenizkiy, Decebal Constantin Mocanu, Shiwei Liu. "Lottery Pools: Winning More by interpolating Tickets without Increasing Training or Inference Cost." **AAAI 2023.**
- **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?" **ICML2023.**
- Shiwei Liu, Tianlong Chen, Zhenyu Zhang, Xuxi Chen, **Tianjin Huang**, Ajay Kumarjaiswal, Zhangyang Wang. "Sparsity May Cry: Let Us Fail (Current) Sparse Neural Networks Together!", **ICLR2023.**

SERVICES

Conference Reviewer: ECML2022, ICML 2022, NurIPS 2022, UAI2023, ICML 2023, ECML 2023, NurIPS 2023.

Journal Reviewer: IEEE Transactions on Industrial Informatics, Wireless Communications and Mobile Computing, ACM Transactions on Intelligent Systems and Technology

Teaching Assistant: Deep Learning Course (2IMM10), 2020 Spring.

Student Project Supervision.

- ○ Zirui Liang. Imbalanced Classification on Graph. M.Sc student (ongoing). Co-supervised with Yulong Pei. *April 2022 – Dec. 2022*
- ○ Tim van Zoggel. Application of GANs for anomaly detection. M.Sc student (ongoing). Co-supervised with Yulong Pei. *Sep. 2022 – Current*

HOBBIES

Fitness, Badminton