

# Yu Pan

HIT Campus of University Town of Shenzhen, Shenzhen, China

✉ iperryuu@gmail.com

🌐 <https://yupan.me>

☎ (+86) 13980449598

## EDUCATION

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**Harbin Institute of Technology, Shenzhen**

*Feb. 2021 - Present*

*Ph.D. Candidate in Computer Science and Technology*

**University of Electronic Science and Technology of China**

*Sept. 2017 - June 2020*

*M.E. in Computer Science and Technology*

**University of Electronic Science and Technology of China**

*Sept. 2013 - June 2017*

*B.E. in Automation*

## RESEARCH EXPERIENCE

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**Statistical Machine Intelligence Learning Laboratory, HITSZ, Shenzhen**

*Sept. 2017 - Present*

○ Adviser: Prof. Zenglin Xu

○ Focus: Deep Neural Networks, Tensor Decomposition

○ **Project:** Investigating combinations of tensor decomposition technique and deep neural networks on a variety of aspects, including model compression, training strategy, etc.

**Speech and Semantics Laboratory, Huawei Noah's Ark Lab, Shenzhen**

*April 2022 - Present*

○ Adviser: Dr. Lifeng Shang & Dr. Yichun Yin

○ Focus: LLM Models, Training Efficiency

○ **Project:** Researching on the mechanism for accelerating training process of LLM models.

**Computer Vision Center, Tencent AI Lab, Shenzhen**

*July 2019 - Oct. 2019*

○ Adviser: Prof. Baoyuan Wu & Dr. Yong Zhang

○ Focus: Adversarial Example, Pruning

○ **Project:** Exploring an efficient pruning method to improve the robustness of deep neural networks, mainly on defending adversarial examples.

## PUBLICATIONS (\* represents equal contribution)

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○ **Yu Pan**, Zeyong Su, Ao Liu, Jingquan Wang, Nannan Li, and Zenglin Xu. "A Unified Weight Initialization Paradigm for Tensorial Convolutional Neural Networks". ICML, 2022.

○ **Yu Pan**, Jing Xu, Maolin Wang, Jinmian Ye, Fei Wang, Kun Bai, and Zenglin Xu. "Compressing Recurrent Neural Networks with Tensor Ring for Action Recognition". AAAI, 2019.

○ **Yu Pan**, Maolin Wang, and Zenglin Xu. "TedNet: A Pytorch Toolkit for Tensor Decomposition Networks". Neurocomputing, 2022.

○ **Yu Pan\***, Nannan Li\*, Yaran Chen, Zixiang Ding, Dongbin Zhao, and Zenglin Xu. "Heuristic Rank Selection with Progressively Searching Tensor Ring Network". Complex & Intelligent Systems, 2021.

○ Jing Xu, **Yu Pan**, Xinglin Pan, Kun Bai, Steven Hoi, Zhang Yi, and Zenglin Xu. "RegNet: Self-Regulated Network for Image Classification". TNNLS, 2022.

- Jingquan Wang, Jing Xu, **Yu Pan**, and Zenglin Xu. “Semantically Proportional Patchmix for Few-Shot Learning”. ICASSP, 2022.
- Xinglin Pan, Jing Xu, **Yu Pan**, and Zenglin Xu. “AFINets: Attentive Feature Integration Networks for Image Classification”. Neural Networks, 2022.
- Maolin Wang, Chenbin Zhang, **Yu Pan**, Jing Xu, and Zenglin Xu. “Tensor Ring Restricted Boltzmann Machines”. IJCNN, 2019.
- Maolin Wang, Zeyong Su, Xu Luo, **Yu Pan**, Shenggen Zheng, and Zenglin Xu. “Concatenated Tensor Networks for Deep Multi-Task Learning”. ICONIP, 2020.

### In Process

- **Yu Pan**, Chaozheng Wang, Zekai Wu, Qifan Wang, Min Zhang, and Zenglin Xu. “Preserving Identity for Fast and Stable Training of Deep Neural Networks”. Submitting in NeurIPS, 2023.
- **Yu Pan**, Ye Yuan, Yichun Yin, Zenglin Xu, Lifeng Shang, Xin Jiang, and Qun Liu. “Reusing Pretrained Models by Multi-linear Operators for Efficient Training”. Submitting in NeurIPS, 2023.
- Dun Zeng, Zenglin Xu, **Yu Pan**, Xu Luo, and Xiaoying Tang. “Sampling Procedure Matters in Federated Learning: Independent Client Sampling with Bandit Feedback”. Submitting in NeurIPS, 2023.
- Dun Zeng, Zenglin Xu, **Yu Pan**, Qifan Wang, and Xiaoying Tang. “Tackling Hybrid Heterogeneity on Federated Optimization via Gradient Diversity Maximization”. Submitting in NeurIPS, 2023.
- **Yu Pan**<sup>\*</sup>, Maolin Wang<sup>\*</sup>, Zenglin Xu, Xiangli Yang, Guangxi Li, and Andrzej Cichocki. “Tensor Networks Meet Neural Networks: A Survey and Future Perspectives”. Submitting for TPAMI, 2023.

## SERVICE

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- Reviewer of ICML 2021-2023, NeurIPS 2020-2023, ICLR 2022-2023.

## RESEARCH ACTIVITIES

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- Published several Python packages and an image annotation tool.
- Attended AAAI 2019 Conference at Hawaii in 2019.
- Attended short-term communication in Japan in 2016.

## AWARDS & SCHOLARSHIPS

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- The Outstanding Graduate Thesis Award, UESTC. 2020
- The Outstanding Graduate Award, UESTC. 2020
- The Excellence in Student Award, UESTC. 2018-2019
- The Major Academic Scholarship for Graduate Students, UESTC. 2018-2019
- The Outstanding Undergraduate Thesis Award, UESTC. 2017