

ZHANG ZELIANG

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EDUCATION

Bachelor | *Major: Computer Science and Technology* | *GPA: 3.89/4.0*
Huazhong University of Science and Technology

Sep. 2018 – Jun. 2022
Wuhan, China

Graduate student | *Major: Computer Science and Technology* |
University of Rochester

Sep. 2022 – Present
Rochester, New York, US

RESEARCH EXPERIENCE AND PUBLICATION

High-Performance Tensor Learning Primitives Using GPU Tensor Cores

Xiao-Yang Liu, **Zeliang Zhang** (co-author), Zhiyuan Wang, Han Lu, Anwar Walid

- [\[GPU computing\]](#)
- The work has been accepted by *IEEE Transactions on Computers*.

Noise Optimization in Artificial Neural Networks

Li Xiao (Advisor), **Zeliang Zhang**, Jinyang Jiang, Yijie Peng

- [\[Optimization & Robustness\]](#)
- The previous paper can be accessed on <https://arxiv.org/abs/2102.04450> and the updated version has been accepted by *IEEE Conference on Automation Science and Engineering*.

Triangle Attack: A Query-efficient Decision-based Adversarial Attack

Xiaosen Wang, **Zeliang Zhang**, Kangheng Tong, Dihong Gong, Kun He, Zhifeng Li, Wei Liu

- [\[Adversarial attack\]](#)
- The work has been accepted by *European Conference on Computer Vision (ECCV) 2022*.

Trillion-Tensor: Trillion-Scale CP Tensor Decomposition

Zeliang Zhang, X.Y. Liu, Pan Zhou

- [\[GPU computing\]](#)
- Accepted by *IJCAI 2020 Tensor Network Representations in Machine Learning Workshop*.

Parallel TTr1-Tensor: Randomized Compression-based Scheme for Tensor Train Rank-1 Decomposition

Zeliang Zhang, Junzhe Zhang, Guoping Lin, Zeyuan Yin, Kun He

- [\[GPU computing\]](#)
- Accepted by *NeurIPS 2020 Quantum Tensor Networks in Machine Learning Workshop*.

DHN: Deep Hamiltonian Network for Variational Reinforcement Learning (Poster)

Zeliang Zhang, Yipeng Wang, Zeqi Liu, Xiao-Yang Liu

- [\[Reinforcement Learning\]](#)
- Accepted by *NeurIPS 2021 Quantum Tensor Networks in Machine Learning Workshop*.

Training Neural Networks without Backpropagation: A Deeper Dive into the Likelihood Ratio Method

Jinyang Jiang*, **Zeliang Zhang***, Chenliang Xu, Zhaoifei Yu, Yijie Peng

- [\[Optimization\]](#)
- Under review.

Diversifying the High-level Features for better Adversarial Transferability

Zhiyuan Wang, **Zeliang Zhang**, Siyuan Liang, Xiaosen Wang

- [\[Adversarial attack\]](#)
- Under review.

Structure Invariant Transformation for better Adversarial Transferability

Xiaosen Wang, **Zeliang Zhang**, Jianping Zhang

- [\[Adversarial attack\]](#)
- Under review.

Bag of tricks to boost the adversarial transferability

Zeliang Zhang, Rongyi Zhu, Wei Yao, Xiaosen Wang, Chenliang Xu

- [\[Adversarial attack\]](#)
- Under review.

How Robust is your Fair Model? Exploring the Robustness of Diverse Fairness Strategies

Edward Small, Wei Shao, **Zeliang Zhang**, Peihan Liu, Jeffrey Chan, Kacper Soko, Flora Salim

- [\[Fairness & Robustness\]](#)
- The work can be accessed on <https://www.semanticscholar.org/reader/13ca0380ea1f4c8f1df12da1014f79f193a86cfa>.

WORK EXPERIENCE

Research Intern

Dec. 2020 – Jan. 2021

Guanghua School of Management, Peking University

Beijing, China

- Study on the robustness of artificial neural network and conduct further validation experiments for the paper, A New Likelihood Ratio Method for Training Artificial Neural Networks, which INFORMS has accepted.

Development Intern

Apr. 2020 – May. 2022

Program team of AI4Finance, Columbia University

Remote

- involved in an open source project, ElegantRL (over 1,500 stars on Github).
<https://github.com/AI4Finance-Foundation/ElegantRL>

Research Intern

Oct. 2021 – Jun. 2022

Machine Learning Group, Microsoft Research Asia

Beijing, China

- Work on using GPU to accelerate the DFT computation and help the automatic design of the material.

HONORS AND AWARDS

Individual Scholarship on Arts and Sports

Apr. 2019

Recognition for students with good performance in arts and sports activities

Scholarship for Scientific and Technological Innovation

Dec. 2020

Recognition for students with good performance in scientific and technological innovation

The SANGFOR scholarship

Apr. 2021

Recognition by Sangfor Technologies Inc for students in both study and academics

Excellent graduate

Jun. 2022

Recognition for excellent graduate in HUST.