YITAO XU

study0098@gmail.com ◇ Homepage ◇ Google Scholar ID

EDUCATION

Ph.D. in Computer Science, EDIC, École Polytechnique Fédérale de Lausanne, EPFL 2023-Present

M.Sc. Computer Science, Exchange, École Polytechnique Fédérale de Lausanne, EPFL 2022-2023

M.Sc. Machine Learning, KTH Royal Institute of Technology 2021-2023

B.Eng. Computer Science, Beihang University 2016-2020

RESEARCH EXPERIENCE

-Research Intern, Image and Visual Representation Lab, EPFL 06.2022 - 09.2023

-Advisor: Ehsan Pajouheshgar, Prof. Sabine Süsstrunk

Topic: Real-time Dynamic Texture Synthesis using Neural Cellular Automata

-Research Assistant, Tsinghua Laboratory of Brain and Intelligence, Tsinghua University

-Advisor: Prof. Jia Liu 11.2020 - 05.2021

Topic: Towards Machines Understanding Physics: Block Tower Stability Inference

-Research Intern, State Key Laboratory of Software Development Environment,Beihang University

-Advisor: Prof. Xianglong Liu 04.2019 - 05.2020

Topic 1: Interpreting Convolutional Neural Networks (CNN) with Neuron Sensitivity

Topic 2: Adversarial Attack against the Agent in Embodied Question Answering

Topic 3: Analysis and Rectification of Texture Bias in Convolutional Neural Networks

PUBLICATIONS

PUBLISHED

- Ehsan Pajouheshgar*, **Yitao Xu***, Alexander Mordvintsev, et al. *Mesh Neural Cellular Automata.* SIGGRAPH, 2024.
- Ehsan Pajouheshgar, **Yitao Xu**, and Sabine Süsstrunk. *NoiseNCA: Noisy Seed Improves Spatio-Temporal Continuity of Neural Cellular Automata.* ALife 2024.
- **Yitao Xu**, Ehsan Pajouheshgar, and Sabine Süsstrunk. *Emergent Dynamics in Neural Cellular Automata.* ALife 2024.
- Ehsan Pajouheshgar*, **Yitao Xu***,Tong Zhang, and Sabine Süsstrunk. *DyNCA: Real-time Dynamic Texture Synthesis Using Neural Cellular Automata.* CVPR, 2023.
- Tianlin Li, Aishan Liu, Xianglong Liu, **Yitao Xu**, et al. *Understanding Adversarial Robustness Via Critical Attacking Route.* Information Sciences, 2021.
- Aishan Liu, Tairan Huang, Xianglong Liu, **Yitao Xu**, et al. *Spatiotemporal Attacks For Embodied Agents.* ECCV, 2020.
- Chongzhi Zhang, Aishan Liu, Xianglong Liu, **Yitao Xu**, et al. *Interpreting and Improving Adversarial Robustness of Deep Neural Networks With Neuron Sensitivity.* IEEE Transactions on Image Processing, 2020.

PREPRINT

- **Yitao Xu**, Tong Zhang, and Sabine Süsstrunk. *AdaNCA: Neural Cellular Automata As Adaptors For More Robust Vision Transformer.* arXiv preprint, https://arxiv.org/abs/2406.08298, 2024.

*: Equal contribution.

WORK EXPERIENCE

-Machine Learning Intern, DiDi AI Labs, DiDi Global Inc. 06.2020 - 11.2020

-Group Leader: Dr. Zhengping Che, Prof. Jian Tang

Project 1: Embedded Real-time UAV Pedestrian Detection

Project 2: 3D LiDAR Point Cloud Object Detection on nuScenes Dataset

HONOURS AND AWARDS

- **Outstanding Undergraduate** of Beihang University, 11.2019
- **Outstanding Undergraduate** of Beihang University, 11.2018
- **Outstanding Undergraduate** of Beihang University, 11.2017
- **Scholarship for Academic Merit**, Beihang University, 09.2016

TEACHING

-Department of Psychology, Tsinghua University

Course: Advances in Cognitive Science 02.2021 - 05.2021

- A 2-hour lecture on the development of Symbolism. slides.