YITAO XU

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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

PUBLICATIONS

PUBLISHED

- **Yitao Xu**, Tong Zhang, and Sabine Süsstrunk. *AdaNCA: Neural Cellular Automata As Adaptors For More Robust Vision Transformer.* NeurIPS 2024.

- **Yitao Xu***, Ehsan Pajouheshgar*, 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 (**Best Student Paper Award**).

- **Yitao Xu**, Ehsan Pajouheshgar, and Sabine Süsstrunk. *Emergent Dynamics in Neural Cellular Automata.* ALife 2024.

- **Yitao Xu***, Ehsan Pajouheshgar*, 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**, et al. "Canonical Latent Representations in Conditional Diffusion Models." arXiv 2025-06.

*: Equal contribution.

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

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.