# Xinyu Zhang

Department of Computer Science, Robot Learning Lab
Rutgers University

xz653@rutgers.edu
mlzxy.github.io | 𝔊 scholar (cites 146)

## EDUCATION

Ph.D. Computer Science, Rutgers University, 2022-present (2nd year)

M.S. Computer Science, University of California San Diego, 2015-17

B.E. Electronic Information Engineering, University of Science and Technology of China, 2011-15

## INDUSTRIAL EXPERIENCE

2021-22 Microsoft
Software Engineer, Bing Search Engineering

2019–20 Face$^{++}$
Machine Learning Engineer, Face Recognition Group

2017–18 Horizon Robotics
Machine Learning Engineer

## PUBLICATIONS

### Manuscripts Under Review

2023 Zhang, X., Yuting W., Abdeslam B. "Detect Every Thing with Few Examples." **SOTA** on open-vocabulary and few-shot object detection. arxiv:2309.12969

### Journal Articles

2022 Zhang, X., Colbert I., Srinjoy D. "Learning Low-Precision Structured Subnetworks Using Joint Layerwise Channel Pruning and Uniform Quantization." *Applied Sciences.* 2022; 12(15):7829 doi:10.3390/app12157829

### Conference Proceedings

2023 Zhang, X., Abdeslam B. "Optical flow boosts unsupervised localization and segmentation." *International Conference on Intelligent Robots and Systems (IROS) 2023*. arxiv:2307.13640.

2020 Chen, M., Y. Fang, X. Wang, H. Luo, Y. Geng, X. Zhang, et al. "Diversity transfer network for few-shot learning." *Proceedings of the AAAI Conference on Artificial Intelligence* 10559-10566. doi:10.1609/aaai.v34i07.6628.

2015 Zhu, S., K. Tan, X. Zhang, Z. Liu, and B. Liu. "MICROST: A mixed approach for heart rate monitoring during intensive physical exercise using wrist-type PPG signals." *International Conference of the IEEE Engineering in Medicine and Biology Society* 2347-2350. doi:10.1109/EMBC.2015.7318864.

### Thesis

2017 Zhang, X., Srinjoy D., Ojash N., Ken K. "A design methodology for efficient implementation of deconvolutional neural networks on an FPGA." *University of California San Diego.*, arxiv:1705.02583.

### Patents

2019 Zhang, X. *Method and apparatus for controlling storage operations of data of region of interest.* United States patent US20200192574A1.

### Notes

2021 Zhang, X., Srinjoy D., Ken K. "Tuning Confidence Bound for Multi-Armed Bandits with Bandit Distance." arxiv:2110.02690

## COMMUNITY ENGAGEMENT

## SOFTWARE PROJECTS

Beanote - Note Taking on Web Pages. Rating 4.2, Users 30k+.

### Open Source Contributions

Code of "Detect Every Thing with Few Examples". 111 ★ 11

QSPARSE: A quantization and pruning library compatible with any pytorch modules. 36 ★

An OpenCL runtime of caffe models for Xilinx FPGA. 35 ★ 21

Restricted Boltzmann Machine in Verilog 2

HTML5 Application Caching 140 ★ 56 and Notification Library 133 ★ 40

### Blogs

A brief introduction for reinforcement learning.

Intuitive explanation of effective sample size in importance sampling.

Neural processes explained.

Dive into latent dirichlet allocation.

Learn ai game playing algorithm part i - game basics.

Learn ai game playing algorithm part ii - monte carlo tree search.

Learn ai game playing algorithm part iii - counterfactual regret minimization.

Updated October 2023