Yefan Zhou

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Education

University of California, Berkeley — Berkeley, CA
M.Eng in Electrical Engineering and Computer Science; GPA: 3.9/4 — *Aug. 2021 – Jan. 2023*

Southeast University — China
B.Eng in Information Engineering; GPA: 3.71/4 — *Aug. 2016 – Jun. 2020*

Experience

Machine Learning Graduate Researcher — Aug. 2021 –
UC Berkeley RISELab, advised by **Michael W. Mahoney** — *Berkeley, CA*

- First author of a paper on 3D Vision in 3DV 2021 (see Publication), proposed **Dispersion Score**, a data-driven metric for measuring the generalization and mechanism of single-view 3D reconstruction network.
- Co-authored a paper on **ME-Prune**, a novel pruning algorithm for finding compact, robust networks. ME-Prune improves test accuracy by 2-3% compared to SOTA with 50% parameters pruned.

Robotic Research Intern — May 2020 – June 2021
UC Berkeley Mechanical Systems Control Lab, advised by **Masayoshi Tomizuka** — *Berkeley, CA*

- Co-authored a paper on maximum likelihood grasp sampling loss (**MLGSL**), a novel loss function for learning robotic grasping from sparsely labeled datasets. MLGSL is 8× more data-efficient than SOTA with a 91.8% grasp success rate in physical experiments.

Projects

BearMaps — Sep. 2020 – Oct. 2020

- Built a web mapping application for the Berkeley area with functions of rastering, auto-complete search, routing by implementing Priority Queue, Trie, K-d Tree and A* memory-optimized algorithm from scratch in Java.

Build Your Own World — Nov. 2020 – Dec. 2020

- Designed and implemented a 2D tile-based Pac-Man game in Java, with UI design, keyboard interaction and saving/loading.

H-PG | *advised by* **Sergey Levine** — Aug. 2021 – Dec. 2021

- Proposed and implemented Hybrid Policy Gradient (**H-PG**), a novel deep reinforcement learning framework for learning robotic grasping task defined in continuous-discrete hybrid action space.

Publication

- **Y. Zhou**, Y. Shen, Y. Yan, C. Feng, Y. Yang "A Dataset-Dispersion Perspective on Reconstruction Versus Recognition in Single-View 3D Reconstruction Networks." International Conference on 3D Vision (3DV) 2021
- A. Zhao, Y. Yang, E. Ye, Z. Liu, X. Yue, V. Shirsat, **Y. Zhou**, K. Keutzer, J. Gonzalez, R. Kannan, M. Mahoney "ME-Prune: Highly Compressed and Robust Neural Networks via Matrix Entropy Based Channel Pruning" Under Review, CVPR 2022
- X. Zhu, **Y. Zhou**, Y. Fan, J. Chen, M. Tomizuka "Learn to Grasp with Less Supervision: A Data-Efficient Maximum Likelihood Grasp Sampling Loss." Under Review, ICRA 2022
- X. Zhu, Y. Fan, C. Wang, **Y. Zhou**, S. Jin, M. Tomizuka "Multi-Fingered Grasp Pose Detection using Point Cloud." Under Review, IEEE Robotics and Automation Letters (RAL)

Technical Skills

Programming: Java, Python, MATLAB, LaTex, Git, PyTorch, Numpy, Pandas