Ang Li

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EDUCATION

Stanford University
M.S. Computer Science, specialized in Artificial Intelligence   *Sep 2023 – Apr 2025*

University of California, San Diego
B.S. Computer Science, graduated with High Honors   *Aug 2019 – Dec 2022*

PUBLICATION

1. Chao Xu, **Ang Li**, Linghao Chen, Yulin Liu, Ruoxi Shi, Minghua Liu, Hao Su. *SpaRP: Fast 3D Object Reconstruction and Pose Estimation from Sparse Views.* Accepted to European Conference on Computer Vision (ECCV 2024). [arXiv]

2. Xiaoshuai Zhang, Rui Chen, **Ang Li**, Fanbo Xiang, Yuzhe Qin, Jiayuan Gu, Zhan Ling, Minghua Liu, Peiyu Zeng, Songfang Han, Zhiao Huang, Tongzhou Mu, Jing Xu, Hao Su. *Close the Optical Sensing Domain Gap by Physics-Grounded Active Stereo Sensor Simulation.* Accepted to IEEE Transactions on Robotics (T-RO 2023). [arXiv]

WORK EXPERIENCE

Research Engineer, Hillbot   *Jan 2025 – Present*
- Design and optimize high-fidelity simulation platforms for robotics systems, focusing on rendering and physics modeling.

Research Intern, Hillbot   *Jul 2024 – Sep 2024*
- Maintain code simulating active stereo depth sensor.
- Work on improving performance of Vulkan-based rasterization pipelines.
- Develop rendering system features including infrared light, shadow catcher, reflection probe, geometry instancing, tone mapping, etc.

RESEARCH EXPERIENCE

3D Object Reconstruction and Pose Estimation from Sparse Views   *Stanford*
Advisor: Prof. Hao Su   *2024*
- Develop an optimization pipeline that enhances the accuracy of coarse predicted camera poses by leveraging the generated 3D mesh.
- Significantly outperform baseline methods in 3D reconstruction quality and pose estimation accuracy with our proposed SpaRP method for sparse-view image inputs.

Active Stereo Vision Depth Sensor Simulation   *UC San Diego*
Advisor: Prof. Hao Su   *2022*
- Design and implement a CUDA-based library to simulate the stereo matching module of real-world depth sensors, enhancing computational efficiency.
- Achieve superior runtime and transfer performance compared to other sim-to-real methods with our proposed depth sensor simulation pipeline.

Closed-Loop Control for Mechanical Ventilation   *UC San Diego*
Advisor: Prof. Ryan Kastner   *2021*
- Lead the development of a closed-loop control circuit for a cost-effective mechanical ventilator prototype, optimizing system reliability.
- Implement a PID controller for Pressure Control Ventilation, successfully implemented on Arduino chips to ensure precise operation.

SELECTED PROJECTS

SAPIEN | [Project]
- SAPIEN is an open-source and physics-rich simulation platform for robotics and embodied AI, led by Hillbot.

SimSense | [GitHub]
- SimSense is a GPU-accelerated depth sensor simulator for python based on stereo matching.

Teaching

CSE 152A: Introduction to Computer Vision *UC San Diego*
Instructional Assistant *Sep 2022 – Dec 2022*
- The course covers image formation, reconstruction, classification, recognition, deep learning.

Technical Skills

Programming Languages: Python, C/C++, Rust, GLSL, CUDA
Frameworks and Libraries: NumPy, PyTorch, OpenGL, Vulkan
Development Tools: Git, Docker, Kubernetes, Blender
Domain Knowledge: Computer Vision, Computer Graphics, Robotics, Deep Learning, Reinforcement Learning, Physics