

SU Lab Application

Thank you for your interest in the SU Lab led by Hao Su. **Make sure you read instructions carefully!**

We accept applications on a rolling basis and depending on availability for positions in various projects in our lab. We are looking for talented people looking to contribute to developing and researching at the frontier of **3D computer vision, AIGC, robotics, decision making, and simulation** (researchers, engineers, and designers). We prioritize students who show evidence they can be committed (e.g. having the drive to work on their own complex projects) and have strong technical/math backgrounds.

This form is for non-phd and non-post doc students (e.g. if you are a high school, undergraduate, or master's student).

PhD, Postdocs, Research Engineers looking to work/visit at the lab should refer to <https://cseweb.ucsd.edu/~haosu/researcher.html> instead.

We also consider more entry-level students who may not have significant experience but are willing to be trained in the lab in preparation for more complex work.

We try to get back to everyone but if you do not hear from us, please be patient as sometimes we may find a role that you fit in further in the future. If you don't receive an offer / hear from us, please wait at least 6 months before reapplying.

See our website for more information: <https://cseweb.ucsd.edu/~haosu/>

Sometimes we post explicit job descriptions for specific roles we are more urgently looking for here: <https://cseweb.ucsd.edu/~haosu/opening.html>

liyonzhe.jonas@berkeley.edu [Switch account](#)



Draft saved

* Indicates required question

Email *

liyonzhe.jonas@berkeley.edu

General Information

First Name, Last Name *

Yunzhe, Li

Current Company/Institution (Write N/A if you are not currently affiliated with a company, lab or university. Write Gap year if you are taking a gap year) *

UC Berkeley

If you are a student, list program (e.g. Undergraduate, Master, PhD) and year in program (e.g. 1st year, 2nd year). Write it as so <Program>, <Year>

Master, last year

Check which of the following degrees you have obtained already, are in the progress of obtaining, or plan to work towards in the future (e.g. currently obtaining masters, plan to apply to PhD programs in the future, you would tick both masters and phd)

☒ Bachelors

☒ Masters

☐ PhD

Interests

To best determine what projects in our lab may be suitable and/or your fit in our lab, we ask a number of questions around your interests and experiences.

Please check your general topics of interest & expertise in engineering and/or research. If a topic is not included, detail all of those in the other section. *

- ☒ 3D Computer Vision
- ☐ Generative Modelling
- ☐ Graphics
- ☐ Reinforcement Learning
- ☒ Robotics
- ☐ ML Theory
- ☐ Simulation
- ☐ ML Engineering at Scale (Working with large models / datasets e.g. foundation models)
- ☒ Frontend Engineering
- ☒ Backend Engineering
- ☐ Machine Learning Operations (ML Ops)
- ☐ DevOps
- ☐ UI/UX Design
- ☐ Other:

Please detail direct evidence of your experience with the topics you chose above. *
You can write this as a paragraph for each. If possible, include links to any publications / project pages / code.

3D Computer Vision & Robotics

In the RoboMaster Competition, I led the vision team in developing a real-time vision pipeline for all robotic systems, integrating camera calibration, image preprocessing, YOLOv7-based detection, object tracking, and fire control. The pipeline features enemy motion mode detection, SolvePnP-based aiming correction, and robust exception handling, ensuring reliable performance in dynamic combat scenarios at 60 FPS on NVIDIA Jetson NX.

As a core component of the pipeline, I designed a real-time targeting module for the Energy Rune, a target exhibiting planar rotation with sinusoidal speed variations. I replaced the OpenCV-based detection with a fine-tuned YOLOv7 model, significantly improving accuracy. Coupled with a Least Squares-based tracker, the system achieves a 90% hit rate. Additionally, it computes roll, pitch, and yaw angles using geometric constraints, ensuring precise gimbal control and real-time tracking.

I have experience using ROS2 for robotic arm manipulation on Sawyer and RealSense D435i-based navigation on TurtleBot.

Code Base: <https://github.com/SRM-Vision/SRM-Vision-2022>

Demos can be found on website: <https://yunzhe-li.top/>

Frontend/Backend Engineering

As an important way to demonstrate what I bring to the world, I have developed extensive web applications that bridge AI research and real-world usability. My projects include a grocery shopping assistant and a LeetCode reviewing assistant, both powered by LLMs, React.js, and Django. In the research domain, I built web tools for large-scale knowledge discovery and image classification explainability, enabling researchers to extract insights from massive datasets and understand deep learning model decision reasoning. These platforms integrate interactive frontends with efficient backend infrastructures, optimizing user experience and data retrieval.

Overall, I am proficient in React.js, Vue.js, Django, Flask, and MySQL, allowing me to develop scalable and impactful AI-driven applications.

If you have any existing advisors/former advisors please list their names here separated by commas e.g. <name 1>, <name 2>, ...

Wei Zhan, Yue Liu

Why are you interested in the SU Lab? What parts of our work would you be the most aligned with and interested in contributing to? *

I am particularly interested in the SU Lab because of its strong focus on bridging cutting-edge research with real-world industry applications, especially in Vision-Language-Action (VLA) models. Professor Hao Su's work in scaling robotics research to impactful industry solutions deeply resonates with my goal of developing practical AI-driven robotic systems.

My background is in robot perception, where I have worked on 3D vision, object detection, tracking, and robotic navigation. However, through my industry experience, I realized that perception alone is not enough, robots must understand intent and interact naturally with humans. I see VLA as the keystone for the next generation of intelligent robotics, enabling better decision-making, generalization, and human-robot collaboration.

This is why I am eager to gain hands-on experience in VLA-driven robotics at SU Lab before stepping into the industry.

Pick **at most 3** PhD and/or Post-Doc students in our lab you may be interested in working with. The order you pick in does not matter. The names are listed in the dropdown below along with their research areas. You can learn more about each of our lab's senior people here as well: <https://cseweb.ucsd.edu/~haosu/lab/group.html>.

A brief summary of each senior student's research interests are listed below:

Fanbo Xiang (Physical Simulation, Robotic Manipulation, Benchmark Design, Rendering, 3D Datasets, Games)

Minghua Liu (3D vision, 3D generative AI, 3D foundation model)

Mukund Varma (3D Vision, Multi View Understanding)

Isabella Liu (3D Vision, Neural Rendering, Dynamic Scene Reconstruction)

Nicklas Hansen (Reinforcement Learning, World Models, Robot Learning)

Ruoxi Shi (3D vision, 3D generative AI, MLSys, Games)

Stone Tao (Single/Multi-agent Reinforcement Learning, Learning from demos, Robot Manipulation, Scalable Benchmarks, Games)

Tongzhou Mu (Learning from Demo, Reinforcement Learning, Motion Synthesis with Generative Models, Robot Manipulation with Foundation Models, Visual Network Architecture for Manipulation, etc.)

Xiaodi Yuan (Physical simulation)

Xinyue Wei (Geometry Processing, Neural Rendering, 3D Vision)

Xuanlin Li (2D / 3D computer vision, open-world vision-language understanding, robotic manipulation, reinforcement learning (from demos), sim2real, benchmark)

Yulin Liu (Teleoperation, Robotic Manipulation, 3D Vision)

Zhan Ling (Large Language Model, Vision Language Model, Reasoning)

Zhiao Huang (Mobile manipulation, world model, reinforcement learning)

Xiaoshuai Zhang (3D Vision, Scene Capturing & Understanding, Large-Scale Models)

Bo Ai (Robot Learning, Manipulation, World Models, Foundation Models for Decision Making, Sim-to-Real Transfer, Cross-Embodiment Learning)

Kehlani Fay (Robot Learning, Hardware Design, Generalization and Embodiment, Humanoids)

Liu Dai (3D vision, Scene Generation, Robotic Navigation)

Sylvia Yuan (2D/3D generative AI, scene reconstruction)

Yilin Wang (Diffusion model, Real world imitation learning, Sim2real)

Jiawei Fu (Computational design (Co-design), Sim2real transfer, Robotic manipulation)

Weikang Wan (Robot Learning, Sim2Real, Dexterous Manipulation, Reinforcement Learning (from demos), World Model Learning)

Arash Asgharivaskasi (SLAM, Motion planning, Multi-Robots planning)

Interested PhD Student Choice 1

Bo Ai

Interested PhD Student Choice 2

Nicklas Hansen

Interested PhD Student Choice 3

Weikang Wan

Please comment generally on what your longer term career goals may be at the moment. Even if you are unsure, try your best to give an approximate answer. This helps us massively with finding appropriate projects that you may be suited for! Long term career goals can be e.g. *

- Working in Industry as a ML Engineer
- Obtaining a PhD and becoming a research scientist
- Obtaining a PhD and aiming to become a professor

My long-term career goal is to work in the industry as a Computer Vision / Robotics Engineer, focusing on scalable AI-driven robotics/autonomous vehicle solutions. I aim to bridge cutting-edge research with real-world applications, particularly in Vision-Language-Action (VLA) models and learning-based robotic perception.

While I currently do not plan to pursue a PhD, I am highly interested in deepening my research experience in multimodal AI and robotics. My goal is to gain strong hands-on expertise in developing intelligent, adaptive robotic systems that can generalize to real-world environments.

In the future, I envision myself working on robotic autonomy, embodied AI, and large-scale deployment of learning-based perception systems, either in a leading AI/robotics company or a startup setting where research can be rapidly translated into impactful solutions.

Final Details

This is the final part of the form where you can indicate when you are available for work and share additional information like a resume and/or links like GitHub.

Do you need visa sponsorship to participate in the in-person research internship in the state? *

- ☒ Yes
- ☐ No
- ☐ Other:

Estimate when you may be available to start working *

Date

06/16/2025

Estimate the ending date of your availability. Leave blank if not known or unclear. *

Date

12/31/2025

Provide a link to your resume (make sure we can access the link) *

<https://drive.google.com/file/d/1vsvH9i39JUa>

Any additional links you would like to share? Github, Twitter/X, personal website, etc.

Website: <https://yunzhe-li.top/>

Source of funding if any. (Decisions won't change if you don't have funding)

Your answer

Any additional comments you would like to share?

Your answer

A copy of your responses will be emailed to the address you provided.

Submit

Clear form

Never submit passwords through Google Forms.

reCAPTCHA

[Privacy](#) [Terms](#)

This form was created inside of UCSD Jacobs School of Engineering.

Does this form look suspicious? [Report](#)

Google Forms

