Yuanhong Zeng

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Education

University of California, Los Angeles **Sep 2024 – Jun 2026 (Expected)**
MS in Electrical and Computer Engineering *Los Angeles, CA*

University of California, Los Angeles **Sep. 2020 – Jul 2024**
BS in Computer Engineering with minora in Mathematics and Bioinformatics *Los Angeles, CA*
Capstone: PickyBot - Mobile manipulator for warehouse pick-and-place tasks GPA:3.9/4.0

Relevant Coursework

- Feedback Control (A+)
- Computational Robotics
- Numerical Computing (A+)
- Signal Processing
- Convex Optimization (A+)
- Statistical Machine Learning
- Deep Learning (A+)
- Operating Systems

Research Experiences

UCLA Practice Lab | *Advisor: Anushri Dixit* **Oct 2024 - Now**
- Built risk aware policies with CVaR constraint RL and adapting risk-level online with multi-arm bandit
- Benchmarked Sim2Real performance in Isaac Lab and a Unitree Go2 robot; built software infrastructure for SLAM, policy inference, and sensor communication with on ROS2

UCLA Robot Intelligence Lab | *Advisor: Yuchen Cui* **Feb 2025 - Now**
- Built a framework for steering diffusion policy with user generated sketch based on guided diffusion
- Improved imitation learning policy with 3D perceptions by augmenting RGB observation with Depth Anything

VCLA at UCLA | *Advisor: Ying Nian Wu* **Oct 2022 - Jun 2024**
- Built a human robot interaction pipeline for pick-and-place with Segment Anything and GPT; tested on Kinova Gen 3.
- Investigated domain adaptation for Sim2Real in vision and control; Improved pick-and-pour success rate by 30%.
- Investigated embodied AI for indoor scene arrangement. Conducted human assessment study on Amazon MTurk.

The Graeber Lab | *Advisor: Thomas G. Graeber* **Dec 2021 - Jun 2023**
- Investigated the trans-differentiation in prostate cancer through temporal multi-omics analysis. Work published in *Cell*.
- Built research website using Docker and HTML/PHP for visualizing PCA and UMAP of bulk/single-cell RNA-seq data.

Work Experience

Digital Bot Lab, Inc **Aug 2023 – Oct 2023**
Research Engineering Intern *San Jose, California*
- Developed robot.digitalbotlab.com, a virtual robot asset marketplace, using Next.js.
- Joined the UCLA Startup to develop MVP for on-cloud robot training platlform using NVIDIA Omniverse Cloud.

Galixir **Dec 2020 – Jun 2021**
Data Analyst Intern *Beijing, China*
- Annotated 10M chemicals in the company's drug database chemical, biological, and clinical attributes.
- Built web scraper based on Scrapy to collect patent and drug information from European Patent Office and SciFinder.

Publications

1. **Y Zeng**, Y Zhao, YN Wu.**Triple Regression for Sim2Real Adaptation in Human-Centered Robot Grasping and Manipulation**, *Workshop in Human-Centered Collaborative Robot, Conference of Robot Learning (CoRL) 2024*

2. CC Chen, [...], **Y Zeng**, *et al.* **Temporal evolution reveals bifurcated lineages in aggressive neuroendocrine small cell prostate cancer trans-differentiation**, *Cancer Cell 2023*

Activities

ASA DataFest at UCLA **Apr 2024**
Best Statistical Model (Honorable Mention)
- Improved CourseKata's learning platform by developing a graphical model to analyze student performance dependencies.

Biomedical Engineering Society (BMES) at UCLA **Sep 2020 – Jun 2022**
Design Team
- Worked on year-long projects, including an embedded immersive sleeping device that tracks sleep quality through EEG and a therapeutic glove for stroke and arthritis patient recovery

Skills

Languages: Python, C/C++, Typescript, R, Latex, SQL **Frameworks:** Nvidia Issac Sim, ROS2, Pytorch
Soft skills: project management and planning, website construction, scientific drawing