

# LARS PAULSEN, EIT

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## EDUCATION

### University of California, San Diego

M.S. Mechanical Engineering

*Sept 2024 - Present*

Specializations: Adaptive Systems, Control

### University of California, Irvine

B.S. Mechanical Engineering

*Sept 2019 - June 2023*

Specialization: Mechanical System Design

## WORK EXPERIENCE

### Research Engineer

Magnetic Microsystems & Microrobotics Lab

*Oct 2023 - Oct 2024*

*UC Irvine*

- Directed research team developing a novel device for magnetizing metal particles

### Southern California Robotics Symposium Coordinator

Magnetic Microsystems & Microrobotics Lab

*June 2023 - Sept 2023*

*UC Irvine*

- Coordinated guest list, organized poster sessions, assisted guest speakers, and guided workshops

## PROJECTS

### ACE-F: A Cross Embodiment Foldable System

*Jan 2025 - Nov 2025*

- Modeled novel teleoperation device in Solidworks
- Created sensorless force feedback control system in Python and C++
- Designed Mujoco simulation environment using Python
- Trained imitation learning models in simulation and on real Panda and U-Factory robots

*UC San Diego*

[\[Website Link\]](#)

### 2D Magnetization Head

*Oct 2023 - Present*

- Designed novel device for imprinting magnetic poles in particles suspended in 3D printed matrix
- Simulated magnetic fields and transient response in COMSOL
- Modeled 15+ structural and electrical components in Solidworks
- Preparing submission to IEEE Transactions on Mechatronics
- Sent GD&T compliant engineering drawings to outside manufacturers for custom parts

*UC Irvine*

### Humanoid Policy ~ Human Policy

*Oct 2023 - Present*

- Designed and fabricated a 3 DOF camera gimbal for replacing an H1 robot head
- Collected human and humanoid training data for imitation learning models

*UC Irvine*

## PUBLICATIONS

[1] Rui Yan\*, Jiajian Fu\*, Shiqi Yang\*, **Lars Paulsen\***, Xuxin Cheng, Xiaolong Wang

*ACE-F: A Cross Embodiment Foldable System with Force Feedback for Dexterous Teleoperation*

Under review, 2025

[2] Ri-Zhao Qiu\*, Shiqi Yang\*, Xuxin Cheng\*, Chaitanya Chawla\*, Jialong Li, Tairan He, Ge Yan, David J. Yoon,

Ryan Hoque, **Lars Paulsen**, Ge Yang, Jian Zhang, Sha Yi, Guanya Shi, Xiaolong Wang

*Humanoid Policy ~ Human Policy*

arXiv preprint arXiv:2503.13441, 2025

## TECHNICAL SKILLS

Solidworks (CSWA), GD&T, FEA (COMSOL, Patran), Python, C++, Matlab, PLC, Physics Simulators (Mujoco, Pybullet, CoppeliaSim), Allen Bradley PLC, 3D Printing, Low-voltage electronics, GitHub, Microsoft Office, Adobe, Autodesk Eagle

## CERTIFICATIONS

Engineer-In-Training No. 180495, California, November 2023