**Dichen Li**

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**Education**

**University of California, San Diego 09/2024-**

* Master’s Program in ECE department: Major in EC80 intelligent system & robotics | GPA: 4.0/4.0
* Relevant Curriculum: *Machine Learning for Robotics; Sensing & Estimation Robotics; Random Processes.*

**University of California, Berkeley 09/2023-06/2024**

* Exchange Program: Studying in EECS department
* Relevant Curriculum: *Designing, Visualizing and Understanding Deep Neural Networks; Introduction to Artificial Intelligence.*

**Xi’An Jiaotong University 09/2020-06/2024**

* Bachelor of Engineering: Major in Automation (Academic Elite Program) | GPA: 3.92/4.30 rank: 19/220
* Relevant Curriculum: *Principles of Automatic Control; Mobile Robotics; Intelligent Control; Data Structure and Algorithms; Computer Architecture and Embedded System Design; Computer Network Theory & Its Applications.*

**Research Experiences**

**Embodiment Description Adaptation**

*Graduate Research Intern | UC San Diego* **04/2025-Present**

* Trained the locomotion controller online to learn diverse gaits across a continuous range of robot embodiments with varying joint limits, maximum joint torque, and body mass.
* Designed and trained a transformer-based adaptation module to infer unknown robot parameters from historical trajectories, enabling robustness to motor failures and payload variations, and improving generalization across uncertain embodiments.

**Discover Large-scale Embodiments Scaling Law 10/2024-05/2025**

*Graduate Research Intern | UC San Diego*

* Conducted reinforcement learning of locomotion policies on 1,000 distinct robots (hexapod, humanoid and quadruped; with different topology, geometry and kinematic features) using Isaac Lab.
* Conducted large-scale supervised teacher-student policy distillation, and achieved real-world deployment for both teacher and student policies on Unitree Go2 and H1 robot.
* Discovered that training on accumulated embodiment improves performance, and that embodiment scaling outperforms data scaling.
* **Paper accepted to CoRL 2025 as the co-author.** The corresponding author is Professor Hao Su.
* **Paper title: Towards Embodiment Scaling Laws in Robot Locomotion.**

**Hexopod Robot Manipulation with Reinforcement Learning 09/2023-05/2024**

*Undergraduate Research Intern| UC Berkeley*

* Designed reward and trained reinforcement learning policies in complex environments for a hexapod robot with depth-sensing cameras to accomplish tasks of obstacle avoidance, stair climbing, and narrow passage traversal.
* Conducted policy distillation with the only viable observations, and deployed on real hexapod robots, achieving stair climbing, cave-like passages traversal (height reduction from 22cm to 10cm), and obstacle avoidance (maneuvering around 40x40x40cm blocks).
* **Paper accepted to IROS 2024 as the second author**. The corresponding author is Professor Avideh Zakhor.
* **Paper title: Versatile Locomotion Skills for Hexapod Robots.**

**Four-Wing UAV Control and Navigation 04/2022-08/2023**

*Undergraduate Research Assistant | Xi’an Jiaotong University*

* Developed real-time flight control firmware in C/Keil (TM4C) with multi-level PID and mission logic.
* Adapted ROS system files for sensor data management and utilized hector\_mapping for UAV indoor localization. Developed a real-time object detection system using Python, PyTorch, and OpenCV using the YOLOv5 model.

**Publications**

* CoRL 2025 (co-author): Towards Embodiment Scaling Laws in Robot Locomotion.
* IROS 2024 (second author): Versatile Locomotion Skills for Hexapod Robots.

**Awards**

* 1st Prize of Shanxi Province, China in the 2022 National College Student Mathematical Modeling Competition
* 2nd Prize of Shanxi Province, China in the 2022 National College Student Electronic Design Competition (TI Cup)

**Skills**

* Reinforcement learning for robotic locomotion.
* Neural network design and training.
* Deployment of control policies on physical robots with embedded systems, sensors and actuators.