

Wei-Han (Daniel) Chen

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EDUCATION

Purdue University, College of Science

Ph.D. in Computer Science, GPA: 3.96 / 4.00

Purdue University, College of Science

Masters in Computer Science, GPA: 3.96 / 4.00

Purdue University, College of Science

Bachelor of Computer Science, GPA: 3.89 / 4.00

West Lafayette, IN

May 2025 – Present

West Lafayette, IN

Aug 2023 – May 2025

West Lafayette, IN

Aug 2019 – May 2023

EXPERIENCE

Vibe Robotics

Co-Founder

Oct 2025 – Present

- Co-founded a robotics startup building low-cost humanoid robots for the home; engineered a humanoid that walks reliably for under \$300 in total hardware cost.
- Built a VR teleoperation system for real-time remote control of a mobile robot.

Scale Robotics Lab, Purdue University

PhD Student

West Lafayette, IN

Dec 2025 – Present

- Developed multi-agent algorithm for fast paced collaboration in dynamic environments
- Skills learned: Multi-agent cooperation, VLA, World models

Coral Lab, Purdue University

PhD Student

West Lafayette, IN

Aug 2023 – Dec 2025

- Improved on current active sensing algorithms to include language instructions
- Scaled up neural motion planners for use in large indoor environments
- Skills learned: Robot motion planning, neural PDEs

PUBLICATIONS

Scaling Neural Motion Planners

Nov 2024 – May 2025

- Created a framework that scales neural motion planners to indoor environments up to 1000 ft², evaluated on large Gibson 3D environments.
- Demonstrated sim-to-real capabilities by mapping and navigating campus buildings.
- Accepted to IROS, arxiv.org/abs/2510.01519

Language-Guided Active Sensing of Confined, Cluttered Environments

Jan 2023 – Sep 2023

- Devised a method for efficient exploration of a robot arm in cluttered environments via object rearrangement planning, evaluated on 100+ randomly generated environments. Publication accepted to ICRA 2024.
- Utilized large vision and language models for sim-to-real capabilities, validated by running user tests on a real UR5e robot arm.
- Accepted to ICRA, arxiv.org/abs/2402.02308

RELEVANT PROJECTS

Multi-Arm Robot Table Tennis

Dec 2025 – Present

- Investigating whether multiple low-cost robot arms can collaboratively play table tennis without relying on expensive sensors or hardware.
- Localized the ball in real time with two 200Hz cameras and generated multi-robot strike trajectories via collocation MPC, with task allocation learned by a neural network that assigns each strike to the best-positioned arm.
- Presented as a poster at Purdue CS.

Robotic Connect 4 (Dual-Arm and Quadruped)

Feb 2026 – Jul 2026

- Programmed a dual-arm Trossen ALOHA robot to physically play Connect 4 against a human opponent, combining vision-language-action (VLA) models with traditional planning and control for piece placement.
- Extended the system to a mobile quadruped robot, integrating YOLO-based object detection to make piece and board detection robust to movement and viewpoint changes.

SKILLS

Robotics and ML: Path/multi-robot planning, MPC, RGB-D/LiDAR perception, ROS 2, PyTorch, neural motion planners, reinforcement learning

Hardware and Systems: Embedded/servo control, 3D-printed mechanical design, low-cost robot hardware, VR teleoperation