Katelyn E. Chen

+1 (650) 512-2533 | katelync@stanford.edu | linkedin.com/in/katelynchen | katelyn-chen.github.io | U.S. Citizen

Education

Stanford University — Stanford, CA

M.S. Mechanical Engineering (Robotics and Mechatronics Track) — *Sep 2024 – present*

B.S. Mechanical Engineering (Dynamics Systems and Controls Track) — *Sep 2021 – present*

Courses: Robot Autonomy; Robot Perception; Soft Robotics; Smart Product Design; Feedback Control Design

Work Experience

Amazon Robotics - Robotics Process Engineering Co-op — Apr. – Sep. 2025

World Wide Tech Deployment, Robotics Deployment Engineering — *Boston, MA*

- Improved robotics deployment processes by conducting Value Stream Mapping workshops and developing standardized evaluation frameworks, and developed an AI chatbot using AWS tools (Bedrock, Kendra, etc) to synthesize 3500+ pages of documentation to support deployment engineers and program managers
- Led cross-team process optimization initiatives that delivered risk-tracking enhancements to deployment dashboards that improved material readiness and on-site decision making across multiple robotics programs

Volkswagen - Student Mechanical Engineer — Sep. 2024 – Apr. 2025

Stanford University, Mechanical Engineering Senior Capstone — *Stanford, CA*

- Designed and built a functioning 50% scale ADA-compliant wheelchair lift for the Volkswagen ID. Buzz and used Arduino-based motor control for automated deployment and stowing
- Performed extensive FEA and experimental testing to ensure structural integrity and minimize deflection, successfully achieving a 300-lb load capacity in a fully modular door-integrated system

German Aerospace Center (DLR) - Robotics R&D Intern — Jun. – Sep. 2024

Institute of Robotics and Mechatronics — *Oberpfaffenhofen, Germany*

- Designed Simulink impedance & gravity compensation controllers on 7-DoF KUKA robotic arms for teleoperation and implemented C++ position control algorithms
- Collaborated with cross-functional teams on a mission with the ISS to teleoperate a space robotics team, assisting in the audio-visual setup and testing of the robot control UI, contributing to mission success

GlobalWafers - Quality Engineering Intern — Jul. – Aug. 2022

Taisil Branch, Quality Analysis Lab — *Hsinchu, Taiwan*

- Conducted infrared light scattering tomography and image processing for defect analysis in silicon wafers, creating data sets for ML-based defect detection and enabling defect measurement alignment

Research Experience

Assistive Robotics and Manipulation Lab - Student Researcher — Jun. 2023 – present

Stanford University, Advised by Professor Monroe Kennedy (PI) — *Stanford, CA*

- Designed and built a test setup to analyze material durability and position accuracy under high-frequency control to develop high-toughness electro-tendons to improve robotic actuation
- Developed a LiDAR-based iOS app in Swift for real-time depth data visualization and deployed a PyTorch to CoreML trajectory prediction model for an integrated data collection and prediction pipeline

Salisbury Robotics Lab - Student Researcher — Jan. 2025 - present

Stanford University, Advised by Professor Kenneth Salisbury (PI) — *Stanford, CA*

- Designed and prototyped a cable-driven n+1 wrist-hand mechanism with modular fingers for surgical applications, improving independent pulley motion through iterative CAD modifications and 3D-printed components
- Developed and tested double-ended teleoperation using mirrored assemblies, optimizing cable materials and pre-tensioning methods to achieve reliable force transmission for robotic manipulation applications

Intelligent and Interactive Autonomous Systems Group - Student Researcher — Mar. – Jun. 2023

Stanford University, Advised by Professor Dorsa Sadigh (PI) — *Stanford, CA*

- Designed and 3D-printed custom gripper parts and implemented Python path-planning analyses for robot-assisted feeding, enhancing product functionality and providing comparative insights on robotic arm performance

Skills

Software: MATLAB, Simulink, Python, C++, Swift, R, SolidWorks, Fusion 360, OnShape, KiCAD, AWS Services

Manufacturing Processes: CAD, FEA, 3D printing, laser cutting, machining, TiG welding, woodworking, soldering

Languages: Bilingual English and Mandarin, Beginner German

Leadership: ASME Stanford Section (Co-President), Stanford Engineers for a Sustainable World (Co-President)