

Katelyn E. Chen

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EDUCATION

Stanford University

Stanford, CA

M.S. Mechanical Engineering (Robotics and Mechatronics Track)

expected June 2026

B.S. Mechanical Engineering (Dynamic Systems and Controls Track)

expected June 2026

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

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 AND PROJECT 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

Stanford Life Design Lab - Student Researcher

Nov. 2023 – Jun. 2024

Stanford University, Advised by Dustin Liu

Stanford, CA

- Designed and prototyped a physical toolkit that gamifies life design process, conducted user testing with Life Design Fellows, overseas visiting Life Design Lab affiliates, and college students
- Selected as one of eight finalists for the Stanford Center for Longevity Design Challenge 2024 (out of 228 submissions from 34 countries) and pitched design to business executives

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)