

Grace E.M. Reilly

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EDUCATION

Bachelor of Science, Mechatronics Engineering - Computer Science Minor
Program Honors

December 2025

California State University, Channel Islands

TECHNICAL SKILLS

Programming: C, C++

Tools and Platforms: Linux, MATLAB, Arduino IDE, OpenAI, AI model integration, Microsoft Office

Embedded Systems: RaspberryPi/Arduino/Tiva microcontrollers, sensor integration, real-time control

Electronics: Soldering, Perfboard Prototyping, PLC (Allen Bradley), HMI

CAD: Fusion 360, 3D Printing (Neptune 4 Max & Pro)

EXPERIENCE & PROJECTS

Special Consultant

CSUCI

April 2026 - July 2026

- Researched an embodied AI robotic lab assistant, developed further from personal capstone project with a focus on refining the prototype for formal publication and educational group study research.
- Served as lead author on a research paper, documenting the system design, methodology, testing, study findings, and engineering outcomes.

Interactive AI Robotic System, Capstone Project

Fall 2025

- Led the development of an interactive AI robotic system, and managed the technical direction and project timelines.
- Designed and integrated the system architecture using Fusion 360, 3D printing, electrical circuit design, and embedded systems deployment on a RaspberryPi.
- Implemented realtime speech-to-speech interaction through integration of OpenAI's gpt models.

PLC Conveyor Belt System, Course Project

Spring 2025

- Designed a prototype conveyor belt system in Fusion 360 with an emphasis on mechanical layout and component integration.
- Programmed an Allen-Bradley PLC to operate and manage product flow dependent on IR sensor feedback.

Autonomous Parking Mobile Robot, Course Project

Spring 2025

- Developed a mobile robot capable of autonomous parking by implementing PID-controlled behavior with ultrasonic sensors, computer vision via PixyCam, and odometry.
- Collaborated with teammates to tune control parameters, trouble-shoot mechanical and electrical issues, and programmed an Arduino-based controller for realtime motor and sensor control.

Embedded Peer Tutor

CSUCI

July 2024 - October 2024

- Tutored students in Linear Algebra and Electromagnetism Physics.
- Assisted students with problem solving strategies and exam preparation.
- Strengthened communication to diverse audiences, breaking down technical explanations of complex mathematical and physics topics.