

Leonardo Miguel Calle Loor

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Education

MS in Mechanical Engineering	San Jose State University	May 2028
BS in Mechanical Engineering, Robotics Minor GPA: 3.67	San Jose State University	May 2026
AA in Arts, AS in Mathematics, AS in Physics GPA: 3.53	Skyline College / College of San Mateo	May 2024

Technical Skills

CAD: Solidworks, Fusion360, SpaceClaim, KiCad, GD&T

Professional Tools: VS Code, JIRA, Google Workspace

Prototyping: Soldering, FDM & SLA 3D-Printing, Machining

Simulation: Solidworks, Ansys

Programming: Python, MATLAB, LabVIEW

Languages: Fluent English, Fluent Spanish.

Work Experience

Robotics Research Assistant, SJSU BioRobotics Lab - San Jose, CA Aug 2025 - Present

- Reverse-engineered two 7-axis arm support assemblies using CAD to explore kinematics and force distribution.
- Engineered an arm pressure sensor, using an array of force-sensitive resistors, custom test fixtures, and MycroPython-based data acquisition, achieving <10% measurement error.

Mechanical Design and Analysis Intern, Lawrence Berkeley National Laboratory - Berkeley, CA Jun 2025 - Aug 2025

- Generated simulation-ready CAD models of the Mayal 4-m telescope's support assembly from drawings in SpaceClaim.
- Modified the telescope's structure to fit a larger 6-m mirror, utilizing FEA simulations in Ansys to validate and optimize proposed modifications.
- Communicated results through technical reports and presentations to engineering stakeholders.

Industrial Systems Engineering Intern, SJSU Industrial Training and Assessment Center - San Jose, CA Sep 2024 - Jun 2025

- Conducted energy audits for 7 manufacturing facilities, identifying 900,000+ kWh/year and \$130,000+/year in savings.
- Developed Python and Excel models to quantify energy savings and validate audit recommendations.

Fabrication, Physics, Materials Science Lab Technician, Skyline College - San Bruno, CA Sep 2022 - Jul 2024

- Led 25+ workshops teaching CAD, 3D printing, and soldering to interdisciplinary student groups of 14-22 participants.
 - Supported students and clarified course concepts, while enforcing lab safety protocols.
 - Prepared 40+ physics and material science lab setups, ensuring all equipment was in good condition and ready for use.
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Project Experience

Team Manager & Hardware Lead, Robotic Arm Assisted Shoulder Rehabilitation System Aug 2025 - Present

- Designed 5 iterations of an ergonomic arm brace to interface patients with the robot.
- Managed a 4-person team using JIRA for task tracking and sprint workflow management.
- Programmed optimal motion paths for shoulder joint rehabilitation.

Design Lead, Four-Bar Electromechanical Robotic Gripper Feb 2025 - May 2025

- Designed and manufactured a miniature four-bar linkage gripper, with 64%+ mechanical efficiency.
- Designed gripper geometry using kinematic synthesis and GD&T in Solidworks, ensuring precise movement and fit of components.
- Created MATLAB scripts to analyze position, velocity, acceleration, and stresses in the system under various loads.

Team Manager & Electronics Lead, Force Sensitive Electromechanical Robotic Gripper Sep 2024 - Dec 2024

- Designed and manufactured a robotic gripper with programmable grasp force for the manipulation of fragile or soft objects.
 - Programmed closed-loop control on a Raspberry Pi Pico using MicroPython, using FSR and encoder data to regulate motor force and motion.
 - Built circuit schematics using KiCad, ensuring correct power and signal routing across all components.
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Hobbies

- Mountain sports, plastic model building, and classical guitar.