

# Terrence Lei

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## EDUCATION

### University of California, Santa Barbara

Santa Barbara, CA

*Bachelor of Science (BS) in Mechanical Engineering, Statistics and Data Science*

*Aug. 2023 – June 2027*

- College of Engineering Honors Program
- Dynamics, Control and Robotics Specialization

**Relevant Coursework:** Dynamics, Thermodynamics, Fluids, Vibrations, Regression Analysis, Machine Learning

## EXPERIENCE

### Begley Research Group

Jan 2026 – Present

*University of California, Santa Barbara*

*Santa Barbara, CA*

- Developing and training a machine vision model to guide robotic arm sequences, supporting automated testing for ATI and Boeing up to 50k tests a day
- Designing vacuum gripper mechanisms to manipulate delicate specimens without intervention, providing improved speed and repetition than manual implementations
- Developing automated system to monitor workbench status, coordinate robotic movements and report results

### Financial Analyst Intern

July 2023 – Present

*IGEL Technology*

*San Francisco, CA*

- Building Excel-based financial models to calculate revenue recognition differences, pricing allocations and adjustment forecasts, creating a more efficient process that reduced analysis times from 3 months to 1 week

### Mechanical Engineering Intern

June 2025 – August 2025

*Northrop Grumman*

*Goleta, CA*

- Conducted a test program to qualify new wires and soldering processes following assembly failures, using data to infer causes and classify different methods, ultimately resulting in reduced production times and material costs
- Designed and built a solar array harness assembly used to test wiring techniques, allowing lead times to be reduced by a month by optimizing the layout before production
- Characterized corrosion-inhibiting primer defects, providing data that informed a new anodization process that eliminated production part defects
- Designed and released drawings using worst-case GD&T, following design for manufacturability/assembly (DFM/DFA) practices
- Designed various parts on rigid panels, flexible panels, deployable boom solar sails and antennas

## EXTRACURRICULARS

### Gaucha Rocket Project | *Fusion 360, Ansys FEA, C++, MATLAB*

September 2024 – Present

- Led a 25 person team as vice president to the successful launch of a liquid bipropellant rocket within the first year of the club's existence, securing five new external partners and eight industry mentors
- Overseeing the completion of a vertical takeoff and landing (VTOL) hopper in a one year timeline to validate our controls and mechanisms design, attracting three additional professors in supporting our group

### Gaucha Racing | *Solidworks, MSC Adams, MATLAB, Simulink*

September 2023 – June 2025

- Designed an adjustable steering system to accommodate different drivers and a more compact package that was awarded more design points than the previous year

### TKO 1351 | *Solidworks, Fusion 360, Python, HTML*

September 2019 – June 2023

- Led the team to achieve their best result in competition history, reaching regional finals and winning two innovation in controls awards in successive years for machine vision and simultaneous location and mapping (SLAM) systems
- Organized team projects including outreach events and technical workshops, leading to a significant rise in member recruitment and qualified talent that culminated in the best competition results in team history

## TECHNICAL SKILLS

**Softwares:** Solidworks, Fusion 360, Ansys CFX, Excel, Adams, Creo, Windchill, VBA, Simulink

**Languages:** C++, Java, Python, SQL, JavaScript, HTML/CSS, R, MATLAB, LaTeX

**Developer Tools:** Git, Google Cloud Platform, VS Code, Visual Studio, PyCharm

**Libraries:** Pandas, NumPy, Matplotlib, PyTorch