Camilo Garrido

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https://camilo-garrido.github.io/Personal-Portfolio

Education

Caltech, Pasadena, CA — *BS in **Mechanical Engineering*** — GPA: **4.1** — Graduating **June 2026**

- **Courses Taken:** Multidisciplinary Systems Engineering, Mechanics, Thermal Sciences, CNC Machining, Mechanical Prototyping, Design and Fabrication, Robotics, Single Board Computers, Computational Science and Engineering, Computer Programming, Differential Equations
- **Current Courses:** Dimensional and Data Analyses in Engineering, Engineering Design Lab, Robotics
- **Extracurriculars:** Caltech Air and Outer Space Club, Questbridge Club, Caltech Hispanic and Latino Club (CHLA)

Experience

Trane Technologies, La Crosse, WI - **Thermal Systems Intern** **June 2024 - Present**

- Data uncertainty project: improve predictive accuracy of shell-and-tube heat exchanger performance Python model across various configurations.
- Created an Excel database for heat exchanger tubes, as well as a tool to compare their performance at various user-input conditions (written in VBA).

Caltech, Pasadena, CA - **Teaching Assistant** **September 2023 - March 2024**

- Mechanical Prototyping — Guided students through the process of tolerancing and machining parts (machines used: lathe, mill, waterjet, laser cutter, bandsaws, sandblaster, drill press, 3D printer, etc.)
- Single Board Computers — Introduced students to standard prototyping components and skills, including servos, DC motors, various sensors, soldering, electrical wiring, and programming microcontrollers.

Caltech, Pasadena, CA - **Peer Mentor** **July - September 2023**

- Offered guidance and support to incoming first-year Caltech students from disadvantaged backgrounds during Caltech's 2023 First-Year Success Research Institute (FSRI) summer program.

Linesider Boats, Miami, FL - **Mold-Making Assistant** **April - June 2022**

- Worked on a wet layup composite mold for an 18 ft boat using fiberglass and polyester resin.
- Calculated the catalyst-resin ratios, accounting for the shop's temperature to avoid thermal runaway.

Projects

Caltech, Pasadena, CA - Transmission Project **May 2024**

- Designed and developed a two-stage transmission for a class competition. Coordinated with a team of 5, overseeing project timelines, resource allocation, and collaborative problem-solving to meet our deadlines.
- Executed the machining and assembly of components, ensuring tolerances and quality control. Conducted performance testing, leading to a first-place finish

Caltech, Pasadena, CA - Caltech Big Idea 2023 **December 2022 - March 2023**

- Researched and designed a solar concentrator for regolith-based metal production on the moon.
- Justified design choices in a research proposal for the NASA Big Idea Challenge and an AIAA paper.

Skills and Languages

Skills: Engineering design, data analysis, electronics integration, Python, Arduino, CAD Modeling (SOLIDWORKS & Fusion360), Machining, MATLAB, 3D Printing, GD&T, Vacuum-resin infusion, Excel VBA, HTML and CSS (certified).

Languages: English and Spanish (fluent - Florida Seal of Biliteracy)

Awards & Recognitions

- AIAA 2023 Regional Student Conference 3rd place Team Winners (Region IV)
- Questbridge National College Match Recipient (2021-2022)