Joaquin Diego Castillo

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Education

M.S. Mechanical Engineering Mechatronics & Design — SEP 2021 – JUN 2023
Stanford University – GPA 3.8

B.S. Mechanical Engineering — AUG 2016 – MAY 2020
University of Colorado Boulder – GPA 3.9 *magna cum laude*

Experience

Field Reliability Intern Rivian Automotive — JUL 2022 – SEP 2022
Researched and implemented data-driven diagnostics and prognostics for field failures and root cause analysis

Course Assistant for Mechanical Systems Design Stanford University — JAN 2022 – JUN 2022
Taught design principles including system modeling, failure modes, FBDs, inverse failure analysis, FEA, mass optimization, DC motor modeling and operating point selection, gearing, energy losses, and power efficiency

Spacecraft Test Engineer Redwire Space — DEC 2020 – SEP 2021
Designed production run test campaign, including GSE design, documentation development, and technician training

Spacecraft Manufacture Engineering Intern SpaceX — MAY 2020 – SEP 2020
Designed and implemented tooling for flight hardware handling and build process automation

CubeSat Project Manager & Mechanical Engineer NASA Colorado Space Grant — DEC 2016 – SEP 2020
As PM, led team of twenty students in fasted-paced work environment to meet customer and internal milestones
As Systems Engineering Lead, led sub-system integration and test, and pre-flight environmental test campaign effort
As Structures Lead, led team of three in designing and integrating flight components and GSE

Mechanical Engineer Orbital Micro Systems — NOV 2017 – APR 2019
Designed mechanical components for initial payload design and assisted in environmental testing campaign

Coursework

ME218 Smart Product Design Stanford University — SEP 2021 – JUN 2022
Electrical and software design for embedded microcontrollers including signal conditioning, state machines, and peripheral control. Quarters culminate in a multi-disciplinary team-based project. Completed quarters A, B, C, and D

EE256 Board Level Design Stanford University — SEP 2022 – DEC 2022
Practical experience designing 2 & 4 layer PCBs, prototyping with CCL boards, SMD stencil/reflow, and hand soldering

MCEN5125 Optimal Design University of Colorado Boulder — JAN 2020 – MAY 2020
Applications in handwriting recognition, image compression, path planning, structure mass optimization

Projects

Debugger for ME218
ME218D – Stanford University

Remote Controlled Watercraft
ME218C – Stanford University

Autonomous Basketball Robot
ME218B – Stanford University

Interactive Arcade Game
ME218A – Stanford University

High-Speed Electric Gripper
Senior Capstone – CU Boulder

3-Axis CNC Router
Home Project

Skills

SolidWorks • GD&T • PCBA Design • C / C++ • Python • MATLAB • Project Management • English • Spanish

January 2023