

JEREMY ENGELS

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U.S. Citizen

EDUCATION

University of California, Los Angeles

Anticipated June 2022

M.S. Aerospace Engineering, focus in Systems & Control

- *GPA not yet established*

B.S. Mechanical Engineering

June 2021

- Cumulative GPA: **3.61**, Major Field GPA: **3.78**

WORK EXPERIENCE

The Aerospace Corp. – Guidance & Control Engineering Intern

June 2021 - September 2021

Controls engineer for a R&D satellite laser communication pointing, acquisition, and tracking system

- Created high-fidelity Simulink model of a lasercom pointing acquisition and tracking testbed
 - Compared different control laws and component choices in simulation to influence testbed design
 - Modeled and quantified the effects of various nonlinearities, disturbances, and time delays
 - Created low-order linear model of the testbed for rapid control law design and tuning
 - Validated high-fidelity simulation and linear model with hardware test data
- Designed ADACS system for a communications satellite in an early-stage concept design study
 - Selected ADACS hardware to ensure fault-tolerance and redundancy, and sufficient performance
 - Created various designs for different constellation configurations (GEO, MEO, etc.)

SpaceX – Vehicle Engineering Intern

June 2020 - September 2020

Responsible Engineer for 3 mission-critical valves on the Falcon 9 vehicle.

- Increased percent of valves to pass acceptance testing by **over 2.5x** through design and operational changes
 - Investigated and identified valve failure root-causes during testing, informing component redesigns
 - Prototyped, tested, and iterated dev units to decrease leakage and improve assembly process
- Led numerous anomaly root-cause investigations to explain and overcome various risks in the F9 fleet

NASA JPL – Mechanical Engineering Intern

April 2019 - September 2019

Designed and built testbed for simulating the thermophysical properties of interiors of icy planets.

- Created full data acquisition system in LabVIEW to process and correct data from multiple sensors
- Given full responsibility over experiment as an intern, requiring independent work and research

PROJECT EXPERIENCE

Bruin Racing – President, Various Other Roles

September 2018 - June 2020

150-member student engineering organization which designs, builds, and competes 4 racecars each year.

- Managed and coordinated all operations: safety, finances, recruitment, training, corporate relations, etc.
- Ran the administrative board, oversaw **\$110k** annual budget, ultimately settled every problem that arose

Bruin Racing Baja SAE – Lead Structures Engineer

September 2017 - June 2019

Designed, manufactured, and tested tubular vehicle chassis for the Baja SAE collegiate competition

- Fully redesigned vehicle chassis, resulting in **19%** reduction in weight and increase in critical safety factors
- Ensured driver safety in the event of a crash through rigorous simulation and validation testing
- Managed subsystem integration to reduce the overall size of the car and ensure smooth assembly process

SKILLS

- **Software:** MATLAB, Simulink, C++, Python, LabVIEW, NX, SolidWorks, LaTeX
- **Skills:** Robust control, Filtering, Digital control, Estimation, Orbital mechanics, System ID, Simulation