

CAMERON FLANNERY

[Mail](#) | P: 818.903.3809 | [LinkedIn](#) | [GitHub](#)

EDUCATION

University of California, Los Angeles

PhD Student | Systems and Controls, Mechanical and Aerospace Engineering

Expected June 2022

University of California, San Diego

Bachelor of Science | Aerospace Engineering

June 2018

GPA: 3.55

TECHNICAL SKILLS

Controls: Convex Optimization, Stochastic Optimal Control, Python, Scipy, C++, C, Matlab

3D Modeling: Solidworks, Inventor, AutoCAD, NX, Teamcenter, GD&T

Manufacturing: 3D Printing, Lathe, Vertical Mill, Composites Layup, Hand Tools, Drill Press

Electrical: Altium Designer, PCB Layout, Schematic Design, SMT soldering, SPICE Simulations

EXPERIENCE

Rocket Propulsion Laboratory | Researcher, Mentor

September 2018 – Present

- Researching autonomous trajectory optimization for asteroid rendezvous
- Investigating multidimensional optimization techniques for interplanetary trajectory optimization
- Mentoring undergraduate engineers at UCSD, UCLA, and UCSB in rocket propulsion and spacecraft design

SpaceX | Systems Engineering, Satellite Operations

May 2018 – September 2018

- Wrote python modules for satellite operations, ADCS calibration and testing, and ground support systems
- Developed data processing and storage methods for constellation operation
- Automated various analyses and data visualization on telemetry from operating satellites

Tesla Motors | Manufacturing Engineering Intern (Gigafactory-1)

June 2017 – September 2017

- Supported the Model 3 manufacturing ramp from 0 to mass production rate
- Developed “stator-stats”, a data science library for the stator team, generating line performance reports
- Created gauges and tools to reduce cycle time by several factors
- Designed automated manufacturing stations for high volume production of the Model 3 drive unit

SpaceX | Avionics Engineering Intern - Radiation Effects (Satellites and Falcon)

March 2016 – December 2016

- Designed and manufactured PCBs for digital and analog testing of flight components
- Developed novel sensor design at a fraction of the cost of commercially available solutions
- Performed study on Falcon 9 Flight Computer; analyzing radiation susceptibility of individual components of the flight computer and determining flight radiation risks
- Scripted in python and cython to automatically parse and analyze data from sensor characterization samples

Rocket Propulsion Laboratory | Chief Engineer, President

October 2016 – May 2018

- Lead the development of a LOX/CH4 engine and launch vehicle to compete in a competition mid-2019
- Completed design for a coaxial-swirl bi-propellant injector and a pintle injector for a tradeoff study
- Performed mechanical and fluids analysis using ANSYS products for multiple designs

UCSD Senior Design | Injector Design Lead

April 2018 – June 2018

- Designed, built, and tested a liquid-liquid coaxial-swirl injector for an LR-101 engine
- Performed calculations to achieve a theoretical 20% delta p across the injector
- Tested the injector within 7 weeks of project inception in a hot fire test
- Performed ANSYS Fluent simulations to predict pressure drop and mass flow rate

Center for Astrophysics and Space Sciences | Research Assistant

February 2015 – July 2016

- Worked on the development of hardware and software for accurate control over the POLARBEAR 2 telescope
- Developed test for realtime software; measured response jitter and timing of Linux kernel interrupts
- Validated theoretical time-base stability (jitter) of various microcontrollers under various temperatures

Triton Rocket Club | Propulsion Lead, Avionics Engineer

January 2015 – June 2017

- Lead development of several propulsion and avionics projects for experimental rockets
 - Mentored undergraduates in aerospace engineering practices and industry skills
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