

# Colton Acosta

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## SUMMARY

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Junior BSE in Aerospace Engineering with Astronautics concentration looking for a Systems Engineering internship position at Lockheed Martin in the summer of 2021.

## EDUCATION

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**B.S.E, Aerospace Engineering;** Astronautics

Graduating May 2022

Barrett Honors College, Arizona State University, Tempe, Arizona

4.0 GPA

## TECHNICAL SKILLS

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**Engineering Software:** SOLIDWORKS, GrabCAD, Fusion 360, OpenRocket

**Programming:** MATLAB, Arduino, Python, Linux (git, vim, gcc), Latex

## EXTRACURRICULAR PROJECTS

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**Liquid Propulsion Avionics Engineer, Sun Devil Rocketry**

August 2019-Present

- Designing an avionics system for a liquid propellant engine including eight valves, ten sensors, and two controllers
- Interfacing sensor outputs for temperature, pressure, thrust, and flow measurements with a Python GUI program
- Built an analog signal amplifier using an integrated circuit chip to boost load cell and pressure transducer output to a readable form
- Summarized project progress in AIAA conference paper
- Wrote a 2020-2021 development plan consisting of 35 deliverables to organize future progress and delegate workloads among new members

**5280 Team Member, Sun Devil Rocketry**

Fall 2018-Spring 2019

- Collaborated with a group of 12 students to launch an amateur rocket to an altitude of 4300 feet
- Determined build specifications and apogee altitude with OpenRocket software
- Constructed rocket with phenolic tubing wrapped with epoxied fiberglass fabric and laser-cut fins
- Used a microcontroller with an internal altimeter for parachute deployment

## ACADEMIC PROJECTS

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**Barrett Honors Student, Trans-lunar Injection Simulation**

January 2019-May 2019

- Simulated a free-return, trans-lunar injection orbital trajectory in MATLAB
- Calculated the trajectory by solving the two-body problem using numerical differential equation solvers with Apollo 11 low earth orbit initial conditions
- Animated solution to visualize the trajectory

**ProMod Team Member, ProMod Aircraft Design Project, ASU**

Fall 2018-December 2018

- Collaborated in a team of four to build prototype models for a theoretical aircraft
- Built a scale model of an aircraft interior, laser cut an airfoil cross-section, and wrote two Arduino programs to demonstrate the design concept of the aircraft's automated systems
- Advertised and presented project results with a promotional poster and video