

# Colton Acosta

404.430.1346 • cacost12@asu.edu • US Citizen • [linkedin.com/in/colton-acosta/](https://www.linkedin.com/in/colton-acosta/)

## SUMMARY

---

Junior aerospace engineering student with collaborative project experience in hardware-software interfacing, specification development, computer-aided modeling, and programming. Interests include control theory, signal processing, and avionics. Open to relocation.

## EDUCATION

---

**B.S.E, Aerospace Engineering;** Autonomous Vehicle Systems  
Arizona State University, Tempe, AZ  
Barrett, The Honors College

Graduating May 2022  
4.00 GPA

## TECHNICAL SKILLS

---

**Presentation and Organization:** Microsoft Office, L<sup>A</sup>T<sub>E</sub>X  
**Design and Modeling:** MATLAB, SOLIDWORKS, LabVIEW  
**Programming:** Python, Arduino C/C++, Linux (git, vim, gcc), R

## EXPERIENCE

---

### Liquid Propulsion Avionics Lead, Sun Devil Rocketry

August 2019-Present

- Leading efforts on the design of an avionics system for a liquid bi-propellant engine with over twenty hardware components including valves, sensors, and controllers
- Wrote a development plan for the 2020-2021 academic year consisting of 42 deliverables to cultivate a results-oriented work environment and to delegate workloads among new talent
- Published project progress in AIAA Propulsion and Energy conference paper
- Interfacing temperature, pressure, thrust, and flow measurements with a Python graphical user interface
- Built a signal amplifier to boost sensor outputs to measurable ranges resulting in savings upwards of \$200
- Conducting trade studies on electronic actuators and orifice flow meters to develop specification requirements using MATLAB for multivariate trade-off analyses and physical modeling

### 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 5280 feet
- Determined build specifications, apogee altitude, and static margin with OpenRocket software
- Constructed rocket with phenolic tubing wrapped with epoxied fiberglass fabric and laser-cut fins
- Adjusted final build pragmatically to mitigate static margin error, allowing rocket to be launched on time
- Used a microcontroller breakout board with internal altimeter for parachute deployment

## ACADEMIC PROJECTS

---

### Team Lead, Airfoil Statistics Project

Spring 2020

- Lead a group of seven students to complete a semester long project by devising a project plan, delegating workloads, setting timelines, and scheduling team meetings
- Collected computational aerodynamic data with Ansys for airflow over a wing section with configurable design specifications created with SOLIDWORKS from a NACA 2412 airfoil parameterization
- Used the R language to analyze data with an Analysis of Variance test and to compute significance-based regression models for wing section lift and drag response to chord length, angle of attack, and sweep angle

### Honors Student, Trans-lunar Injection Simulation

Spring 2019

- Simulated a free-return, trans-lunar injection orbital trajectory in MATLAB with an animated solution
- Calculated the trajectory by solving the two-body problem using a numerical differential equation solver built from scratch with Apollo 11 low earth orbit initial conditions