Adrian Danao-Schroeder

Senior • Aerospace Engineering • Chinese
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EDUCATION

University of Maryland College Park, College Park, MD **Expected May 2019**
Bachelor of Science Aerospace Engineering **GPA: 3.20**
Bachelor of Arts Chinese

Relevant Courses: Mechanics of Composites, Linear Controls, Spaceflight Dynamics, Vibrations, Space Propulsion

PROJECT EXPERIENCE

Terrapin Rockets Development Team, *Propulsion Team* **Oct. 2017 – Present**

- Develop a paraffin and liquid N_2O hybrid rocket to push a 8.5kg to 30,000 ft. for the Spaceport America Cup
- Modeled and designed a small scale test motor to measure regression rates and thrust of the motor
- Used ANSYS Fluent and Chemkin to simulate combustion chamber regression rates, and calculate predicted chamber pressures and temperatures for a small scale test stand

Deployable Heat Shield, Near-Space Laboratory**,** *Mechanical Team Leader* **July 2018 – Present**

- Design a deployable heat shield to simulate the recovery of an upper stage launch vehicle
- Simulate reentry conditions and flow over heat shield at hypersonic speeds using methods of characteristics and Fluent (for lower velocities)
- Heat shield will be dropped from 80,000 ft. to simulate descent through the atmosphere

CanSat Competition 2018 Deployable Heat Shield, *Mechanical Team Leader* **Oct 2017 – June 2018**

- Designed and built a rocket launched probe to test and simulate a deployable heat shield to slow probes descent
- Used ANSYS Fluent CFD simulations of descent rate and stability of probe and heat shield during flight to modify the design accurately determine the flight characteristics
- Placed 4th among 104 international teams competing in competition

Flight Controller for Propulsive Landing, Control of Aerospace Systems **May 2018**

- Developed a flight control algorithm to land a simulated rocket on a moving barge
- Flight controller implemented noise pre-filtering, external disturbance rejection and second order target tracking

Solar Powered Glider, *Team Leader* **Nov 2016 – May 2017**

- Constructed and designed a solar powered glider designed to take measurements of altitude, velocity, temperature, pressure and transmit the data collected during flight to a ground station
- Managed a team of eight students, coordinated work schedules, made deadlines, kept team members on schedule

SKILLS

Programs: ANSYS (Fluent, FEA, Chemkin), Siemens NX, STK, SolidWorks, Inventor, AutoCAD, MATLAB
Fabrication Skills: Welding (TIG and Stick), Lathe, Milling, General Shop Machines
Programming: Java, JavaScript, Python, C++, HTML, CSS, Ruby
Foreign Languages: Spanish (Native Fluency), Chinese (6 years of study)

WORK EXPERIENCE

Software Licensing Associate, University of Maryland Division of IT, **Feb 2016 – Sep 2018**

- Licensed and managed software contracts, distribution and maintenance for the University of Maryland
- Administer software distribution service for all members of the University of Maryland
- Provided technical support and troubleshooting for problems related to software installation and licensing
- Hired and trained new staff members to manage distribution and provide technical support to faculty and staff