Matthew Ryan Altis

2019 Windermere Xing, Cumming, GA 30041 | 404-858-5465 | mi37@gatech.edu | US Citizen | mattaltis.com

Education

Georgia Institute of Technology — **Atlanta, Ga**

Bachelor of Science in Aerospace Engineering, GPA 3.53 — Fall 2018- Fall 2021

Skills

Relevant Coursework- Wind Tunnel Tests, Tensile Testing, Propulsion Systems, Control Systems, Research Papers, FAA Regulations, Dynamics, Aircraft Design, Statistics, Structural Analysis, Lab Reports

Software- JavaScript, LabView, Matlab, Microsoft Office Suite, HTML, CSS, Python, Simulink, SolidWorks

Hardware- Analog Circuits, Oscilloscope, Multimeter, Strain Gauge, 3D Printing, RC Plane Design

Projects

Unmanned Combat Air Vehicle — Jan-May 2021

- Executed complete design for Unmanned Fighter Aircraft based on given mission and performance requirements
- Iterative design process applied to weight sizing and thrust/wing loading, optimized initial sizing through examination of trade studies across baseline design parameters
- Verified mass property analysis with respect to payload, fuel, avionics, and lifting surfaces to assess center of gravity, neutral point location, and examine stability characteristics of vehicle
- Final prototype cost 330% cheaper than F-22 and achieved 9.75 flight hours per F-22 hour

eVTOL System Design and Market Study — Aug-Dec 2020

- Organized complete marketable program for Urban Air Mobility company, ranging from initial concept of operations and configuration selection to final program development timeline
- Researched and arranged functional architecture, product breakdown structure, in which final design achieved volume of 150+ passengers per vehicle day, with attainable program development by 2024

Wind Turbine Site Feasibility Analysis — May-Aug 2021

- Selected potential wind turbine site and verified economic feasibility of site with market analysis
- Analyzed design configurations for turbine blade and simulated performance using WT Perf software
- Final turbine farm cost analysis produced energy at the cost of 8 cents/Kilowatt hour, outcompeting local natural gas and coal energy providers

Hypersonic Flight Program — May-Aug 2021

- Developed MATLAB program to compute downstream conditions, forces, and heating of hypersonic vehicle with user-input vehicle geometry and flight conditions
- Output values within 4% margin of error from equilibrium code solutions

Orbital Location Program Sep-Dec 2020

- MATLAB program written to take in location of initial orbital object location from known radar location
- Outputs all 6 primary orbital elements and final position and velocity after elapsed time

Model Rocket Sep-Nov 2019

- Simulated and constructed rocket using kit and custom 3D printed parts to store payload
- Rocket launch test achieved 2% error from required apogee height

Mars Rover Jan-May 2020

- Planned preliminary rover design utilized dimensioned engineering drawings for part sizing and integrating interlocking pieces
- Oversaw and aided in construction of SolidWorks components and led team to consistent and functional final assembly of Mars terraforming vehicle

NTSB/FAA Case Study Project Aug-Oct 2021

- Examined the role of regulatory agencies in the treatments of safety-critical aircraft systems and integrated data from case studies in NTSB accident reports
- Identified certification issues and process improvements to improve system safety and ensure learning outcome from case studies extends to regulatory agencies

Extracurriculars/Work Experience

Amazon Prime Now Associate May-Aug 2020

- Received and prepared Amazon orders for delivery or pickup, sustaining performance of 100 items per hour
- Frequent communication with customers to ensure satisfactory, accurate, and timely service

Recording Studio/Band Founder 2015-Present

- Founded and played drums for multiple bands, performing shows across multiple cities and states
- Run personal recording studio to record and produce multiple albums, Eps, and singles, for my own bands and other artists, consistently completing final product on tight release schedule