

Jonathan Martini Resume

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Education	Bachelor of Science in Mechanical Engineering Minor in Aerospace Engineering Master of Business Administration The University of Alabama, Tuscaloosa AL Honors College Cumulative GPA: 3.7			May 2022 May 2022 May 2023
Skills and Familiar Technologies	<ul style="list-style-type: none">• Python3 – Advanced• C/C++ – Proficient• MATLAB – Proficient• Solidworks – Intermediate• Windows – Proficient• Linux/BSD – Advanced• Excel – Proficient• Word – Proficient	<ul style="list-style-type: none">• Power Point - Proficient• Pytorch – Beginner• Tensorflow – Intermediate• Machine Learning – Beginner• Numpy – Intermediate• Pandas –Advanced• Git/Git Gui – Proficient• Julia – Beginner	<ul style="list-style-type: none">• Fortran95 – Familiar• Serial Port Programming – Proficient• Scipy – Familiar• FreeCAD Scripting – Advanced• Soft Skills• Presentations• Leadership•	
Experience	<p>ARA: ARES 2019/Deimos 2020 Avionics Telemetry System:</p> <ul style="list-style-type: none">• Developed a library to debug and automatically transmit, receive, and serialize data for the FreeWave Zumlink Z9-C Radio Transmitter. <p>ARA: ARES Avionics 2019-2020 Hardware Assembly:</p> <ul style="list-style-type: none">• Helped design, debug, and assembly relevant flight hardware prior to the team test flight. <p>ARA: ARES Part Scripting Program for 3D CAD Models:</p> <ul style="list-style-type: none">• Wrote software to take CEA data to auto-generate rocket nozzle geometry in .STEP files to convert to Solidworks part format. <p>ARA: Deimos Team Project Manager for IREC 2020-2021:</p> <ul style="list-style-type: none">• I am responsible for settings goals, creating development plans and timelines, organizing sub-teams, appointing sub-team leads and making sure the team adheres to IREC competition rules and regulations while staying within our allocated budget. In addition, I contribute to sub-team software and hardware avionics projects. <p>StemPath to MBA: NASA Project:</p> <ul style="list-style-type: none">• Developed a business plan for a NASA telemetry patent and was selected as 1 of 24 best teams in the honors program that presented to NASA engineers and administrators. <p>Personal Projects: Trading Software:</p> <ul style="list-style-type: none">• Wrote automation software to crawl trading forums for posts and used a pre-determined criterion to buy and sell stocks.• Wrote a scanner for volume and volatility to find intra-weekly plays on a watchlist of stocks and then developed a mailing list for the scanner.• Wrote a Bitcoin trading bot using technical analysis to automate a profitable strategy using the Binance exchange.• Working with freelance chartists to develop their strategies into fully automated trading bots on various brokerage APIs.• Wrote a paper trading platform for live-testing technical analysis bots.• Worked in an online development team on a large trading bot via Github and Discord.			
Work Experience	<p>Golden Oak Capital LLC – Managing Member/Software Developer</p> <ul style="list-style-type: none">• Gained invaluable operations management experience• Gained invaluable business and financial experience• Gained experience developing automated financial software and managing cloud servers <p>Lowe’s – Outdoor Lawn and Garden Associate</p> <ul style="list-style-type: none">• Loaded mulch into customer vehicles• Delivered Home Appliances• Restocked and Cleaned the store			9/3/2020 – 9/12/2020 5/10/2019 – 8/10/2019
Campus Involvement	<ul style="list-style-type: none">• Alabama Rocketry Association (ARA)• (ARA) Deimos IREC Team Project Manager• (ARA) ARES 2020 Avionics Team Member (software dev)• (ARA) ARES 2020 Powerhead Team Member (software dev)• Alpha Delta Phi Brotherhood Chair• Golden Key Honour Society• Alabama Machine Learning Club• ASME Member• AIAA Member• Alabama Club Crew Team• High School Lacrosse Defensive/Team Captain			Fall 2019-Present Spring 2020-Present Fall 2019-Spring 2020 Spring 2020 Spring 2020-Present Fall 2019-Present Fall 2018-Present Fall 2018-Present Fall 2018-Present Fall 2018-Present Fall 2018-Spring 2019 High School (3 Seasons)

Relevant Course Work:

- **Calculus 1**
- **Calculus 2**
- **Calculus 3**
- **Applied Differential Equations 1**
- **Linear Algebra**
- **Small Scale Engineering Graphics**
 - Introduction to Solidworks CAD software
 - Covered building parts, manipulating parts, and building assemblies.
- **Physics 1**
- **Physics 2** (Mostly Covered: University Physics 2 & 3 Textbooks by OpenStax)
 - Basic heat transfer
 - Electrical Circuits (AC/DC)
 - Solenoids and Toroids
 - Electricity and Magnetism
 - Electromagnetic Waves
 - Geometric Optics and Image Formation
 - Interference
 - Diffraction
 - Relativity
 - Briefly covered Quantum Mechanics
 - Atomic Structure
 - Nuclear Physics
 - Particle Physics
- **Statics**
- **Algorithm Development Implementation**
 - C++ Algorithm Development Course
- **Thermodynamics 1**
 - Fundamentals of Thermodynamics
- **Thermodynamics 2**
 - Modeling Power and Refrigeration Systems
 - Modeling Systems and Processes using Ideal Gas Mixtures
 - Modeling Moist Air using psychrometric charts and formulations
 - Analyzing chemical reactions and systems in chemical equilibrium
- **Engineering Materials: Structural Properties**
 - Atomic Bonding
 - Crystal Structures and descriptions using Miller Indices
 - Crystalline Defects
 - Phase Equilibrium, Transformation and microstructure development
 - Mechanical Properties
 - Electrical Properties
 - Optical Properties
 - Thermal Properties
 - Magnetic Properties
 - Classes of metals, ceramics, polymers, and composites and applications
- **Astronautics**
 - Heat Transfer
 - Orbital Mechanics
 - Atmosphere Modeling
 - Rocket Stage Modeling

- Basic Rocket Propulsion
- Systems Engineering Methodology
- Space Mission Structure and Planning

Current Term Fall 2020

- **Mechanics of Materials**
- **Fundamentals of Electrical Engineering**
 - Electric Circuits
 - Electronics and Electromechanics
- **Heat Transfer**
- **Engineering Analysis**
 - MATLAB
 - Engineering Statistics and Probability
 - Numerical Methods
 - Engineering Economics
 - Present Worth Analysis
 - Rate of Return Analysis