Jonathan Martini Resume

jsmartini@crimson.ua.edu	(859)-801-1055	Linkedin.com/jsmartini	Github.com/jsmartini

Education

Bachelor of Science in Mechanical Engineering — **May 2022**
Minor in Aerospace Engineering — **May 2022**
Master of Business Administration — **May 2023**
The University of Alabama, Tuscaloosa AL
Honors College
Cumulative GPA: 3.7

Skills and Familiar Technologies

- Python3 – Advanced
- C/C++ – Proficient
- MATLAB – Proficient
- Solidworks – Intermediate
- Windows – Proficient
- Linux/BSD – Advanced
- Excel – Proficient
- Word – Proficient
- Power Point - Proficient
- Pytorch – Beginner
- Tensorflow – Intermediate
- Machine Learning – Beginner
- Numpy – Intermediate
- Pandas –Advanced
- Git/Git Gui – Proficient
- Julia – Beginner
- Fortran95 – Familiar
- Serial Port Programming – Proficient
- Scipy – Familiar
- FreeCAD Scripting – Advanced
- Soft Skills
- Presentations
- Leadership

Experience

ARA: ARES 2019/Deimos 2020 Avionics Telemetry System:
- Developed a library to debug and automatically transmit, receive, and serialize data for the FreeWave Zumlink Z9-C Radio Transmitter.

ARA: ARES Avionics 2019-2020 Hardware Assembly:
- Helped design, debug, and assembly relevant flight hardware prior to the team test flight.

ARA: ARES Part Scripting Program for 3D CAD Models:
- Wrote software to take CEA data to auto-generate rocket nozzle geometry in .STEP files to convert to Solidworks part format.

ARA: Deimos Team Project Manager for IREC 2020-2021:
- 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.

StemPath to MBA: NASA Project:
- 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.

Personal Projects: Trading Software:
- 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

Golden Oak Capital LLC – Managing Member/Software Developer — 9/3/2020 – 9/12/2020
- Gained invaluable operations management experience
- Gained invaluable business and financial experience
- Gained experience developing automated financial software and managing cloud servers

Lowe's – Outdoor Lawn and Garden Associate — 5/10/2019 – 8/10/2019
- Loaded mulch into customer vehicles
- Delivered Home Appliances
- Restocked and Cleaned the store

Campus Involvement

Alabama Rocketry Association (ARA)	Fall 2019-Present
(ARA) Deimos IREC Team Project Manager	Spring 2020-Present
(ARA) ARES 2020 Avionics Team Member (software dev)	Fall 2019-Spring 2020
(ARA) ARES 2020 Powerhead Team Member (software dev)	Spring 2020
Alpha Delta Phi Brotherhood Chair	Spring 2020-Present
Golden Key Honour Society	Fall 2019-Present
Alabama Machine Learning Club	Fall 2018-Present
ASME Member	Fall 2018-Present
AIAA Member	Fall 2018-Present
Alabama Club Crew Team	Fall 2018-Present
High School Lacrosse Defensive/Team Captain	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