CHASE MEMMER

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EDUCATION

University of Alabama, Dec 2022
B.S. in Mechanical Engineering (Cum Laude)
B.S. in Electrical Engineering (Cum Laude)
Honors College

Creative, gifted problem solver specialized in robotics, prosthetics, and mechatronics.
A collaborative group leader who evaluates options with the foresight of a multidisciplinary background.

WORK EXPERIENCE

Quincy Air Compressor — Bay Minette, AL
R&D Engineering Co-op — *May 2019 – May 2020*

- Designed prototype testing procedures and analyzed key measures of performance through LabVIEW and Excel VBA
- Optimized compressor performance through iterative design processes in Solidworks
- Sourced and oversaw contractors on projects up to $15.000
- Implemented and maintained ISO, ASME, DOE, third-part standards and OSHA safety measures

APG Electric — Tampa, FL
Engineering Intern — *June 2015 – July 2015*

PROJECTS

EMG-Controlled Simple Robotic Arm — Tuscaloosa, AL
Mechatronics Engineer, Software Engineer, Research — *August 2022 – Current*

- Building three degree-of-freedom (Elbow, Wrist, Grasp) simplified arm
- Implementing Pattern Recognition Machine Learning to extract features from EMG data

Battery Management System for ABEX Satellite — Tuscaloosa, AL
Team Lead, Embedded Hardware Engineer, Embedded Systems — *January 2022 – Current*

- Designed PCB for microcontroller-led Maximum Power Point Tracking of 8S2P solar array
- Designed PCB for the Battery Management System including three independent batteries, four dynamic solar arrays, three output rails, emergency stop and dynamic consumption
- Implemented closed low-level PID control loop and open high-level control loop for slave-master relationship with satellite command system

NASA's Robotic Mining Competition — Tuscaloosa, AL
Mechanical Team Lead, Mechanical Engineer — *September 2018 – December 2020*

- Introduced new mechanical design that doubled production and won nationwide championship
- Fully modelled and simulated 1000+ parts in Solidworks
- Acted as Technical Lead and presented design at the NASA consortium in Capitol Hill, Washington D.C.

Pic-n-Place Robotic Arm (SCARA) — Tuscaloosa, AL
Mechatronics Engineer — *January 2021 – May 2021*

High-Voltage Dielectric Elastomer Actuator — Tuscaloosa, AL
Embedded Hardware Engineer, Analog Systems Engineer — *January 2022 – May 2022*

SKILLS

Software Tools	Solidworks, FEAs, KiCAD/Altium, PSpice/Cadence, LabView, AutoCAD, CoppeliaSim
Lab Skills	Instrumentation, Calibration, Data Acquisition, Data Analysis
Programming Languages	Matlab, C, Excel VBA, Arduino
Hardware Skills	Hand Tools, Power Tools, 3D Printing, Water/Laser Jetting, Soldering
Productivity	Microsoft Office, Microsoft Teams, Slack
Outside Interests	World Travelling, Hiking (Appalachian Trail, Solo), Fishing, Reading, Research