

GEORGE A. MUHN

PHOENIX, AZ • 480.760.3639 • GEOMUHN@GMAIL.COM

ASPIRING ELECTRICAL ENGINEER

ENGINEERING, INTERNATIONAL PROJECT EXPERIENCE, PROGRAM DEVELOPMENT & TEAM LEAD

Accomplished and goal-driven electrical engineering student with a proven track record of innovation and success with international research, waste habit tracking, off-grid solar support, SMART building, and Arduino based projects. Proven ability to evaluate, strategize, and learn quickly by working in a team setting and independently while completing assigned tasks. Noted leadership skill set with proven success in building and developing various testing infrastructures, problem analysis, solution offering component designs across multi-site, global operations. Self-starter, who takes the initiative, displays leadership, and provides effective support to clients.

Areas of Expertise

Product Strategy & Vision | Engineering Roadmaps & Milestones | Turnaround Leadership | Product Management
New Product & Next-Generation Product Launch | Global Experiences | New Technology Introduction & Integration
Data-Driven Decision Making | Team Development, Mentoring & Management | Program Development | Data Analysis
Interpersonal Communication | Testing Infrastructures | Programing | Laboratory Work & Operation

Technical Proficiencies

SolidWorks | Arduino IDE | Soldering | Strong Math Skills | MATLAB | Excel | Cadence | Microcontrollers | PCB Design
Welding | C++ Coding Language | Machining | Scanning Electron Microscope Training | Python

Relevant Coursework

Engineering Design Project 1, 2 and 3 | Use-Inspired Design Project 1 & 2 | Electrical and Mechanical Fundamentals
Material and Manufacturing Processes | Engineering Statistics | General Chemistry 1 & 2
Calculus 1, 2, 3, Differential Equations and Linear Algebra | Physics | Engineering Mechanics: Statics and Dynamics
Modeling Engineering Systems *MATLAB* | Embedded System Design | Robotic Systems 1 & 2 | Mechatronic Systems
Professional Design Project 1 & 2 | Foldable Robotics | Transforms & Systems Modeling

ENGINEERING EXPERIENCE

ARIZONA STATE UNIVERSITY – Mesa, AZ

Air Force Research Labs University Design Challenge

Fall 2020 - Current

- Working as a team to prototype, build, test and compete a working robotic manipulator that can place Commercial off the shelf camera sensors from 0 to 100ft vertical and from 150+ft away.
- Lead in development of the Unmanned ground vehicle and is auxiliary development of Unmanned aerial vehicle.

Robotic Arm Manipulator

Spring 2020

- Modified and constructed with provided parts a 6 degree of freedom robotic arm.
- Modified and improved Arduino code to create a smoother and path following motion.
- Calculated forward and inverse kinematics to help control and program the robotic arm

Robotic Art with Lasers | Touch sensor control input

Spring 2020

- Robotic manipulator similar to XY drawing machine that uses a UV laser that creates images on a glow in the dark surface
- Engineered and designed an embedded system circuit schematic and PCB for capacitive touch control input.
- Developed with a team an 8 bit microcontroller and integrated motors, sensors, laser Diodes and WiFi.

Off-Grid Mobile Solar Charging Station | Team Leader

2018 - 2019

- Engineering Projects in the Community Service (EPICS) team, helped design and build a fully functioning mobile phone charging station to benefit local communities and promote sustainability.

NATIONAL UNIVERSITY OF SINGAPORE – Singapore

Summer 2019

Material Science Research Internship

- Researched multiple magnesium nanocomposites' by determining its physical and mechanical properties as well as studying its microstructure.
- Focused on the recyclability of magnesium by the cold compaction method using turnings.
- Extensive use of Scanning Electron Microscope (SEM) and machining.

PROFESSIONAL EXPERIENCE

ARIZONA STATE UNIVERSITY – Polytechnic Campus, Mesa AZ

2020 - Present

Undergraduate Teaching Assistant for Intro to Robotics I

Provide supplemental instruction and educational guides as a resource for student success.

- Hosting office hours for individual student interaction and questions response
- Monitor online part of the hybrid course

ARIZONA STATE UNIVERSITY – Polytechnic Campus, Mesa AZ

2020 - Present

Coding and Lab aide for Nonlinear Robotic Dynamic and Control Lab

Assisting with various projects under the instruction of PhD student Kevin Nichols

- Soldering and Assembly of electrical components for Government Project.

ARIZONA STATE UNIVERSITY – Polytechnic Campus, Mesa AZ

2019 – Present

Community Assistant for University Housing

Assisted residents in moving into the residence hall and adjusting to campus life and developed an atmosphere of community where residents felt a sense of belonging, affiliation, and support.

- Encouraged residents to interact with each other through programming, community activities, and other forms of interaction.
- Provided educational, personal, and social development for residents by planning and implementing activities on the University Campus.
- Assisted in the enforcement of University and residence hall policies, identified and documented violations and incidents.
- Served as a mediator for disturbances, conflicts, and crises as needed in the residence halls.
- Utilized the University and community resources in referring residents to appropriate offices and programs that enhanced personal growth and contributed to academic success.

EDUCATION

ARIZONA STATE UNIVERSITY, Mesa, AZ – Candidate

Bachelor of Science in Engineering, Minor in Applied Mathematics**GPA 3.90/4.00 Expected Graduation: May 2021****Master of Science in Robotics and Autonomous Systems****GPA 4.00/4.00 Expected Graduation: May 2022****Certifications**

MATLAB Machine Learning Onramp | MATLAB Deep Learning Onramp

Community Involvement

ASU Photography Club | Boy Scout and Eagle Scout | 2-year mission in Brazil – fluent Portuguese