

# Alvaro Guerra

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 <https://github.com/Agu303>

## EDUCATION

**Texas A&M University (TAMU)**

May 2025

*Bachelor of Science in Mechanical Engineering*

*College Station, TX*

## EXPERIENCE

**IGNITORS Rocketry Team Structures Lead**

November 2024 - Present

- Deliver weekly presentations on composite manufacturing and structural analysis techniques on airframes aligning team tasks with project timelines to ensure efficient and informed progress toward mission goals
- Designing and fabricating a composite material-based rocket to an altitude of 10,000 feet

**SAE Aero Design Team Structures and Material Science Designer**

May 2022 - April 2023

- SAE Aero West International Competition 1st place Finalist
- Structurally optimized airplane payload (58% of total weight) using solidworks and ansys, adjusting the center of gravity to be 9.5 inches aft from the main wing leading edge for better failure mode analysis

**Garden Cultivation Robot Capstone Senior Member**

August 2024 - Present

- Structurally validated chassis components with beam analysis and solidworks finite element analysis
- Implementing electro-mechanical sensors and code with Raspberry Pi and Arduino microcontrollers for PID motion optimization

**T.U.R.T.L.E. Sumo Bot Designer/Programmer**

June - August 2022

- Modeled sumo bot exterior with solidworks and programmed remote-controlled movement and user interface with arduino and python

**River Valley Appraisals of Texas, LLC Analyst Intern**

May 2021 - August 2021

- Worked on property evaluations using regression analysis and comparable sales market data with excel data analysis

## SKILLS

**Software:** Solidworks, Onshape, Ansys, Python, Matlab, HTML/CSS

**Fabrication:** CAD, FEA, GD&T, 3D Printing (Prusa/Ender3), Circuit Design, CNC Machining, Soldering

**Technologies:** Git/Github (Version Control), Linux (Ubuntu/Raspbian), AWS (EC2/S3/IoT)

**Interests:** Digital Fabrication, Composites, Aerospace, Robotics