Julio Cesar Garcia

El Paso, TX 79934 | (915) 202-3286 | juliogarcia8d@gmail.com | Master Portfolio →

EDUCATION - The University of Texas at El Paso (UTEP) - Cumulative GPA: 3.6/4.00

Bachelor of Science in Mechanical Engineering - With a minor in Mathematics Graduation Date: 05/14/2023

Master of Science in Mechanical Engineering Anticipated Date: 12/2025

Honors, Awards & Affiliations:

College of Engineering Dean's List Fall19, Spring21-Fall22, Spring24-Present

3D Modeling of Space Systems and Concepts, Member 07/2021-Present

UTEP Soccer Club, Board Member 08/2024-Present

Aerospace Center, Undergraduate Research Assistant 09/2021-12/2023

EXPERIENCE

Hiller Measurements Innovative Solutions - Proteus ATE - Internship 11/2023-09/2024

- Pioneered the design of a high-performance, manufacturable rack door, incorporating an Ergotron arm for seamless technician access, significantly enhancing operational efficiency.
- Engineered a wire addressing system, strategically separating Ground, Power, I/O, and Network cables to mitigate electromagnetic interference, ensuring optimal system performance.
- Elevated the functionality of the Proteus ATE application by refining a 3D page viewer as well as developing the cable addressing logic, demonstrating adaptability and problem-solving skills in coding.
- Standardized documentation protocols using MT, ensuring consistent naming conventions across all microservices, which reduced documentation errors by 20% and improved team collaboration.
- Conducted in-depth research on critical testing instruments, compiling comprehensive data on attributes such as thermal capacity, measurements, and power requirements, which allowed for reliable instrument database inputs.

PROJECTS

Space Exploration Technology Research Center - Graduate Research at UTEP 09/2021-12/2023

Project advisor: Dr. Flores - afloresabad@utep.edu

- Designed and manufactured a CNC-compatible robotic arm with 3 degrees of freedom for integration onto a U2 satellite and implemented research to create G-codes for its components using CAM features in NX12 and Fusion 360 CAM.
- Led the design and manufacturing efforts for a satellite deployment door, contributing to advancements in space technology and ensuring mission success.
- Worked on the digitization of physical components and artifacts, overseeing their production using various manufacturing techniques, including traditional methods such as lathe or mill, and innovative approaches.
- Led the design and manufacturing of a high-pressure interface device capable of withstanding 3000 psi, enabling precise control of airflow for one-plane space testing.
- Engineered and constructed a specialized sled replicating space conditions on an air-bearing table, which improved test accuracy by 33% and contributed to the successful completion of space simulation tests.
- Assisted and mentored two new interns while collaborating with cross-functional teams to ensure a successful project.

BAJA Society of Automotive Engineers (SAE) - Steering and Brakes team leader 02/2022-02/2023

- Managed and oversaw 10 individuals in the Steering and Brakes sub-team of the club, teaching them essentials ranging from knowledge on cars to creating FEAs, CAD, CAM, and machining using CNC and other conventional methods.
- Collaborated closely with other team leaders across various sub-teams to analyze current processes, identify bottlenecks, and implement strategies that significantly boosted overall team performance, ensuring successful project outcomes.
- Directed the design, fabrication, and testing of steering components, utilizing both CNC machinery and conventional methods to achieve the highest precision. This hands-on approach ensured reliability, safety, and optimal performance.

Manufacturing Engineering Lab, Mechanical Spider 08/2022-12/2022

- Team lead. Designed a functioning spider that controls eight different legs with only 1 actuator. Managed a group of 12 people by assisting and allocating different tasks needed to complete the project. Fully manufactured spider out of Aluminum plates.
- Conducted comprehensive research into the materials, components, costs, and methodologies required for the spider.

SKILLS

- Microsoft Office Certified by Certiport: Word 2016, Excel 2016, Outlook 2016, and PowerPoint 2016.
- Extensive experience with Autodesk Fusion 360, Autodesk Tinkercad, Autodesk Tinkercad Circuits, Blender, NX 12.0, Bambu Studio, Ultimaker Cura, Creality Slicer, Python, GitHub, HTML, CSS, Arduino IDE 1.8.19, MATLAB R2020R, NI LabVIEW 2022, Simulink, Unity, Unreal Engine 5.0.1, Figma, Lucid Chart, Photoshop, Inkscape, and DaVinci Resolve.
- Metal tool knowledge of a metal machine shop. Blueprint/Drawing Reading
- Welding experience and teamwork.
- Bilingual: English and Spanish.