

MIGUEL ARTAZOS

Houston, TX | (346) 562-4661 | ma300@rice.edu | Semiconductor Equipment Portfolio | LinkedIn | GitHub

Mechanical engineer and Rice MEML student who builds electromechanical systems from CAD through fabrication, wiring, instrumentation, testing, and iteration. Hands-on experience with SolidWorks, Onshape, mechanical drawings, 3D printing, bearings, motors, sensors, microcontrollers, DAQ, and technical documentation. Seeking a Fall 2026 semiconductor-equipment internship; open to Austin or San Francisco.

EDUCATION

Rice University - Houston, TX

Master of Engineering Management & Leadership (MEML), Mechanical Engineering Specialization | Jan 2026 - May 2027

Coursework: Data Science, Machine Learning, Product Management, Operations Research

University of St. Thomas - Houston, TX

B.S. Mechanical Engineering, Minor in Physics | Magna Cum Laude | Dec 2025

Coursework: Machine Design, Manufacturing Processes, Electrical Circuits, Heat Transfer, Fluid Mechanics

ELECTROMECHANICAL SYSTEMS & RAPID PROTOTYPING

Wave Energy Converter | SolidWorks, Generator Assembly, Arduino DAQ, MATLAB | Team Lead | Aug 2024 - May 2025

- Led a four-person team from concept and CAD through fabrication, assembly, wiring, pool testing, and documentation of a crank-driven electromechanical generator.
- Built the rotor/stator system with PLA parts, bearings, hand-wound coils, N52 magnets, rectifier electronics, and sensors; resolved alignment, magnet-polarity, coil-clearance, bearing-fit, and wiring issues through repeated build-test cycles.
- Instrumented the prototype with Arduino DAQ and used MATLAB analysis to guide mechanical and electrical changes that improved measured output by 15%.

Interactive Hermann Park Maquette | Embedded Mechatronics, 3D Printing, Assembly | 2026

- Designed and built a finished electromechanical system integrating an ESP32-S3, stepper motor and driver, GPIO expander, GT2 belt carriage, magnetic coupling, OLED, audio amplifier, LEDs, buttons, reed switch, and custom wiring.
- Iterated printed parts, tolerances, supports, cable routing, soldered connections, mechanism alignment, firmware, and final assembly until the hidden rail, controls, audio, lighting, and display operated together reliably.

Tracked Mobile Manipulator | Mechanical Assembly, Actuators, Controls | 2025

- Built, wired, and programmed a tracked robot with an actuated arm and gripper; applied forward/inverse kinematics and debugged drivetrain alignment, motor response, wiring, and control behavior.

ENGINEERING EXPERIENCE

Rice Summer Engineering Innovation Program / Eaton - The Ion, Houston, TX

Project Lead - Engineering Design Automation | Summer 2026

- Leading an AI-assisted engineering workflow that connects product specifications, CAD concepts, design constraints, and iterative decisions; coordinating technical milestones, sponsor feedback, and documentation.

Elawan Energy - Houston, TX

Data Science & Engineering Intern - Pipeline Development & Automation | May 2025 - Dec 2025

- Built an automated SCADA and meteorological data-quality pipeline that reduced recurring review time by 91%, from eight hours to 45 minutes per site, across five operating projects.
- Analyzed 250M+ time-series records to troubleshoot performance, sensor faults, data gaps, and anomalies, then documented repeatable findings for technical and business stakeholders.

University of St. Thomas - Houston, TX

Robotics & Nanotechnology Teaching Assistant | 2024 - 2025

- Supported laboratory setup, demonstrations, and troubleshooting across robot assemblies, sensors, controls, fabrication, basic circuits, and electromechanical testing.

TECHNICAL SKILLS

Mechanical Design & Build: SolidWorks, Onshape, AutoCAD, assemblies, mechanical drawings, packaging, 3D printing, rapid prototyping, fixtures, milling, drilling, hand tools, tolerance and fit checks

Electromechanical & Test: motors, bearings, sensors, Arduino/ESP32, DAQ, soldering, wiring, basic circuits, embedded C/C++, MATLAB, test plans, validation, root-cause troubleshooting

Engineering Software: Python, Excel/VBA, SQL, Git, data automation, Monte Carlo simulation, machine-learning fundamentals

Current Semiconductor Study: fab-equipment architecture; photolithography; vacuum systems; ALD, CVD, and PVD process fundamentals

Languages: Spanish (native), English (fluent), Portuguese (intermediate)

LEADERSHIP

Rice SEIP project lead; former NCAA Division III soccer team captain and two-time SCAC conference champion.