

MIGUEL ARTAZOS

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

Mechanical engineer and Rice MEML student with experience in renewable-asset analysis, energy-conversion hardware, mechanical prototyping, instrumentation, and engineering automation. Built a wind/solar data-quality workflow that reduced review time by 91% and led a tested electromechanical wave-energy prototype through CAD, fabrication, DAQ, and iteration. Interested in mechanical and project engineering for advanced nuclear and energy infrastructure.

EDUCATION

Rice University - Houston, TX

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

Technical focus: Energy Transition & Thermal-Fluid Systems

Planned coursework: Computational Fluid Mechanics, Conduction Heat Transfer, Energy Systems & Sustainable Development

University of St. Thomas - Houston, TX

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

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

Additional Energy Training: HarvardX (edX) - Energy Within Environmental Constraints | Completed 2026

ENERGY & ENGINEERING EXPERIENCE

Elawan Energy - Houston, TX

Data Science & Engineering Intern - Renewable Asset Analytics | May 2025 - Dec 2025

- Built an automated Excel/VBA quality-control pipeline for SCADA and meteorological data, reducing recurring review time by 91%, from eight hours to 45 minutes per site, across five wind and solar projects.
- Analyzed 250M+ time-series records to investigate turbine underperformance, wake effects, sensor faults, data gaps, and measurement anomalies affecting expected generation.
- Developed standardized wind-shear and hub-height adjustment tools and translated performance findings into technical reporting supporting \$200M+ energy-asset decisions.

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, explicit constraints, and iterative design decisions.
- Coordinating technical execution and sponsor feedback while keeping requirements, manufacturability, and engineering judgment visible throughout the design loop.

University of St. Thomas - Houston, TX

Robotics & Nanotechnology Teaching Assistant | 2024 - 2025

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

SELECTED MECHANICAL & ENERGY PROJECTS

Wave Energy Converter | SolidWorks, Arduino DAQ, MATLAB, 3D Printing | Team Lead | Aug 2024 - May 2025

- Led a four-person team designing and fabricating a crank-driven device that converted vertical wave motion into generator rotation for small-scale offshore and coastal energy harvesting.
- Integrated PLA components, bearings, rotor/stator hardware, hand-wound coils, N52 magnets, rectifier electronics, wiring, and DAQ; improved measured electrical output by 15% through pool testing and iteration.

SMR Systems Study & Technical Presentation | Communication for Engineers | 2026

- Researched SMR architecture, modular construction, passive-safety concepts, deployment economics, and grid applications for my Communication for Engineers final presentation.

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

- Built, wired, and debugged a tracked robot with an actuated arm and gripper, applying forward/inverse kinematics and repeated mechanical-electrical test cycles.

TECHNICAL SKILLS

Mechanical Design & Fabrication: SolidWorks, Onshape, AutoCAD, assemblies, drawings, mechanical packaging, 3D printing, prototyping, milling, drilling, soldering, wiring, basic circuits

Energy & Analysis: wind SCADA, meteorological data, AEP and capacity-factor analysis, P50/P75/P90 concepts, wind shear, data quality, time-series analysis, root-cause investigation

Testing & Engineering Tools: Arduino/DAQ, test plans, validation, MATLAB, Python, Excel/VBA, SQL, requirements, design constraints, technical documentation

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

LEADERSHIP

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