

MIGUEL ARTAZOS

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

Mechanical engineer and Rice MEML student focused on robotics, mechatronics, and physical AI. Hands-on experience with SolidWorks, Onshape, 3D printing, actuators, Arduino/DAQ, kinematics, mechanical prototyping, and build-test iteration. Available Fall 2026 for full-time onsite internship in Houston.

EDUCATION

Rice University - Houston, TX

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

Relevant coursework: Data Science, Machine Learning, Product Management, Operations Research, Financial Analysis

University of St. Thomas - Houston, TX

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

Dean's List; UST Excellence & Engineering Scholarships; NCAA D3 Soccer, SCAC Champion

ROBOTICS, MECHATRONICS & PROTOTYPING PROJECTS

Robotics Class Mobile Manipulator | Actuators, Kinematics, Gripper, Embedded Control | 2025

- Built and programmed a tracked mobile robot with actuated drivetrain, arm structure, and gripper, integrating mechanical assembly, electronics, and control logic into a working system.
- Applied forward and inverse kinematics concepts to reason about robot motion, actuator behavior, and end-effector positioning during robotics coursework.
- Debugged mechanical alignment, wiring, motor behavior, and motion-control issues through hands-on test iterations.

Interactive Hermann Park Maquette | 3D Printing, Electronics, Embedded Controls | 2026

- Built an interactive 3D-printed miniature scene with painted components, lighting, speakers, LED display, rail system, and button-controlled behavior.
- Integrated physical fabrication, electronics, user controls, and programmed logic so buttons triggered lighting states, songs, display behavior, and rail movement.

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

- Led a 4-person team designing, fabricating, and testing a 3D-printed crank-driven wave energy converter that translated vertical wave motion into generator rotation for small-scale offshore/coastal energy harvesting.
- Integrated stator/rotor hardware, hand-wound copper coils, N52 magnets, bearings, rectifier electronics, wiring, Arduino DAQ, and MATLAB analysis, improving measured output by 15% through design iteration.

Pantry Robot End-Effector Concept | Onshape, Computer Vision, Edge AI, Robotics | Personal Venture | May 2026 - Present

- Designing an Onshape end-effector concept for a personal pantry robot that would identify, relocate, and arrange cans, boxes, jars, and small containers, with heavier/stable items planned for lower shelves.
- Planning local edge-AI perception and shelf-organization logic while separating high-level AI decisions from deterministic motor-control and safety behavior.

ENGINEERING & AUTOMATION EXPERIENCE

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

Engineering Innovation Researcher | Summer 2026

- Building an AI-assisted engineering design loop at The Ion, translating product specifications into CAD concepts, design constraints, and iterative engineering decisions.
- Applying mechanical-design reasoning, constraint management, and CAD workflows to connect requirements, geometry, and manufacturable prototype concepts.

University of St. Thomas - Houston, TX

Robotics & Nanotechnology Teaching Assistant | 2024 - 2025

- Supported robotics and nanotechnology coursework through lab setup, hands-on demos, student troubleshooting, and feedback on technical assignments.
- Helped students reason through robot assemblies, sensors, controls, fabrication steps, and electromechanical lab issues.

Elawan Energy - Houston, TX

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

- Built an automated SCADA and meteorological data-processing pipeline that reduced review time by 91%, from 8 hours to 45 minutes per site, across five wind and solar projects.
- Analyzed large-scale time-series data to identify anomalies, diagnose underperformance, and document findings for finance, executive, and investor stakeholders.

STARTUP & SOFTWARE EXPERIENCE

Guinote+ - Spanish Card Game Startup | Founder & Solo Developer | Jan 2025 - Present

- Built and launched a real-time multiplayer Spanish card-game platform with React Native, TypeScript, PostgreSQL, and Supabase; implemented Monte Carlo AI that improved bot win rate from 32% to 53%.
- Expanding the product into physical card manufacturing and Spanish-market distribution, including print specifications, supplier coordination, packaging decisions, and launch planning.

Business Empire - Board Game Simulation & ML Balance System | Python, Monte Carlo, ML | 2026 - Present

- Built a Monte Carlo simulation and ridge-regression ML pipeline for a strategy board game, parsing a 93-card dataset and using simulation-derived win bias to evaluate card balance, strategy behavior, and board-layout changes.

Rice University Web Development Services | Web Development Intern | Mar 2026 - Present

- Building and maintaining university web applications, contributing production code and support fixes for internal service workflows.

Freelance Web Development & Automation | Technical Consultant | Feb 2023 - Present

- Built and deployed 5+ production websites, dashboards, payment flows, analytics, and lead/review automations for local businesses.

TECHNICAL SKILLS

CAD & Mechanical: SolidWorks, Onshape, AutoCAD, assemblies, drawings, mechanical packaging, 3D printing, fixtures, prototyping, milling, drilling

Robotics & Mechatronics: actuators, grippers, tracked drivetrains, forward/inverse kinematics, Arduino, sensors, DAQ, soldering, basic circuits, embedded C/C++, wiring, build-test-debug loops

Testing & Analysis: test plans, validation, force/displacement data, MATLAB, Python, Excel/VBA, technical documentation, design specifications

Software & AI: Python, JavaScript/TypeScript, SQL/PostgreSQL, computer vision concepts, Monte Carlo simulation, machine learning basics, React Native, Git

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