María José Guerrero Gallegos

majo_gg@mit.edu • (956)-739-5809

EDUCATION

Massachusetts Institute of Technology (MIT) *Exp. Graduation May 2027*
Candidate for BS in Mechanical Engineering and BS in Architecture | GPA 4.9/5.0 *Cambridge, MA*
- Engineering Coursework: Mechanics & Materials, Measurement & Instrumentation, Electronics for Mechanical Systems, Dynamics and Controls, Thermal Fluids, Intro to Structural Design, Numerical Computation
- Design Coursework: Design: Objects and Interactions, Architecture Design Studio Sequence, Design Tools & Techniques, Design Computation

WORK EXPERIENCE

MIT Museum Studio June 2026 – *Present*
Design Engineering Intern *Cambridge, MA*
- Designed and fabricated experimental hardware across seven research and exhibition projects, developing modular mechanical assemblies, custom enclosures, and physical interfaces through CAD and rapid prototyping.
- Engineered compact electromechanical systems integrating motors, PCBs, LEDs, wireless controls, and active cooling, optimizing component packaging around dimensional, thermal, and assembly constraints.
- Developed Ganzfeld perception devices using custom 3D-printed LED mounts, SLA-printed molds, and thermoforming; designed rotating assemblies, motor and mirror housings, and mounting hardware for the Space-Time Modulator.

Making Materials Lab, Politecnico di Milano June – August 2025
Research Intern *Milan, Italy*
- Fabricated 300+ standardized tensile and flexural test specimens from PBS/PBAT biopolymer composites with 0–30% cotton fiber and hazelnut-shell fillers, supporting mechanical characterization.
- Processed composite materials through drying, extrusion, granulation, and injection molding, adjusting compositions and manufacturing parameters to achieve consistent, testable specimens.
- Designed and fabricated functional prototypes using large-format pellet 3D printing, iterating extrusion flow, bed adhesion, geometry, and print parameters to accommodate material and machine constraints while reducing material waste.

MIT Urban Risk Lab September - December 2024
Research Assistant *Cambridge, MA*
- Designed dual-use furniture/home products with emergency functionality for flood-prone regions.
- Prototyped adaptable models addressing size, cost, material, and daily vs. disaster usability.
- Informed designs with insights from Rio Grande do Sul floods to ensure real-world applicability.

LEADERSHIP

Gordon Engineering Leadership Program September 2025 - May 2026
- Developing practical engineering leadership skills, teamwork, and project management capabilities through coursework, hands-on engineering labs, and guided personal reflection.

MIT D-Lab September 2025 - January 2026
Team Lead *Cambridge, MA & Ghana*
- Co-led a multidisciplinary team designing and fabricating a motorized aquatic weed cutter; drove iterative development of the cutting mechanism, balancing performance, safety, and manufacturability for local production.
- Led design and fabrication during a Ghana field visit to develop a mechanical coconut oil press, translating user needs and local manufacturing constraints into a durable, user-centered prototype through direct collaboration with local partners.

SKILLS

Design Software: Fusion 360, Rhino, Adobe Illustrator, Adobe InDesign, Adobe Photoshop, Adobe Lightroom
Fabrication & Prototyping: CNC machining, laser cutting, 3D printing (SLA and FDM), rapid prototyping, woodworking, welding/sheet metal fabrication, injection molding, vacuum forming, soldering
Technical/Analysis: MATLAB, Arduino
Languages: Spanish (Native), English (Native)