RODRIGO ALBERTO GALLARDO

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Rodrigo Gallardo is a Graduate student in EECS and Design Computation at MIT focusing on multimodal AR/VR interfaces, haptics, and AI-driven guidance systems.

EDUCATION

Massachusetts Institute of Technology
- Master's of Science in Design Computation
- Master's in Electrical Engineering & Computer Science (Expected 2026 Dual degree Candidate)

University of Houston
 -Bachelor of Architecture, Honors Thesis

RESEARCH EXPERIENCE

MIT Schwarzman – SERC Scholar   (Sep 2025 – PRESENT)

• Cross-disciplinary initiative that brings together students, postdocs, and faculty to develop research projects on the social and ethical responsibilities of computing.

Rice MAHI Lab – Visiting Researcher Mech E Dept.   (June 2025 – PRESENT)

• Conducting XR user studies using visual haptic modalities to evaluate spatial perception.

MIT AeroAstro – Lead VR Developer, Queueing Theory Learning Project   (Aug 2025 – PRESENT)

• Designing interactive scenarios to demonstrate performance trade-offs, system failures, and management interventions (e.g., staffing strategies, service rate adjustments)

MIT LEAP Group – Contributor, Mechanical Engineering Dept.   (Feb 2025 – June 2025)

• Analyzed video data for published research and created visual content for the journal.

University of Houston CoAD - Augmented Reality 3D Printing Research

• Studied AR workflows for construction guidance, focusing on clarity and efficiency.
• Used geometry tools to refine prints and streamline digital-to-physical processes.

CougAR Lab – VR Environments Learning Lab

• Designed VR environments and workflows intended for future user testing phases.
• Created interactive spaces to support layout studies and immersive learning tools.

INDUSTRY DESIGN EXPERIENCE

Skate Ecosystems – Computational Designer   *(Jan 2025 – PRESENT)*

• Designed skate layouts based on skater motion and informal feedback loops.
• Modeled skate features to improve user rhythm, repetition, and safe transitions.

Protolab Architects – Computational Designer   *(Aug 2023 – Aug 2024)*

• Led scripting-based workflows for creative form generation and geometry studies.
• Modeled spatial and product-scale designs focused on pattern and modularity.
• Created fabrication-ready digital models for CNC, prototyping, and testing setups.

Collaborate Architects – Designer VR Specialist   *(Jan 2023 – Aug 2023)*

• Created VR walkthroughs and adjusted scenes based on stakeholder reactions.

Prothird – UX + Media Production Specialist   *(May 2022 – Sep 2022)*

• Worked with clients to define site goals and ran A/B tests on content and flow.
• Built wireframes and layouts for responsive sites, based on real user feedback.

Precursor Technologies LLC – Design Intern   *(May 2020 – Aug 2020)*

• Built lunar habitat concepts and mapped out basic task flows and use scenarios.

NOTABLE COURSES

Creative Machine Learning | Shape Grammars | Geometric Folding Algorithms| How to Make Almost Anything | Computational Structural Optimization

SKILLS + SOFTWARE

User-Centered Design + Human Factors
Grasshopper, Rhino 8, Blender
Generative Design + Algorithmic Modeling
Computational Geometry + Topology Optimization
Programming (Python, C#) + Data Analysis
Python (NumPy)
C# (for Rhino + Unity development)
ML for Design Applications
Multimodal data integration (vision + haptics)

AR/VR Development + Interface Prototyping
Finite Element Analysis (FEA) + Structural Simulations, Karamba
AR/VR Development (HoloLens, Unity, Unreal Engine)
Robotics + CNC (KUKA, Arduino)
AI Body Motion Analysis (Media Pipe)

SELECTED PUBLICATIONS

• R. Gallardo, A. H. Kyaw, O. Fishman, "Scene-Aware Urban Design: A Human–AI Recommendation Framework Using Co-Occurrence Embeddings and Vision-Language Models", in the Proceedings of the Thirty-ninth Annual Conference on Neural Information Processing Systems (NeurIPS 2025), Creative AI Track: Humanity, 2025.

• S. Mutis, A. H. Kyaw, R. Gallardo, D. Mykhaylychenko, and E. Demaine, "Self-Folding Modular Chain Robot for Shape-Changing Objects", in *Proceedings of the ACM Symposium on Computational Fabrication (SCF '25)*, Cambridge, MA, USA, November 20–21, 2025.

IN REVIEW

•B. Ataman, R. Gallardo, and Qilmeg, "Affective Translation: Material and Virtual Embodiments of Kinetic Textile Robots", in Proceedings of the Eighteenth International Conference on Tangible, Embedded, and Embodied Interaction (TEI '26), ACM, New York, NY, USA, 2026.

EXHIBITIONS

• Kinematics of Urban Movement– ArCH Center Houston	*(2025-2026)*
• Publication as Worldmaking– MIT ACT Gallery	*(2024)*
• Kiosk K67: System for Urban Imagination– Blaffer Art Museum	*(2023)*

AWARDS + HONORS

Steve Jobs Archive Fellow 2025-2026
Selected for a yearlong fellowship supporting young creators working with technology and creativity; awarded stipend, individualized mentorship, and national peer community
John Haymaker Fellow 2024-2025
Awarded to MIT graduate students excelling in computational design, honoring John Haymaker's legacy

CSEF Scholarship 2024, 2025
Awarded to student skateboarders pursuing higher education through CSEF
Latinos In Architecture Scholarship 2022
Awarded by AIA Houston and the Latinos in Architecture Committee supporting academic and professional growth in architecture.

TEACHING + OUTREACH

MIT TA – Publication as Worldmaking Course	*(2024)*
University of Houston – Instructional Assistant for Design Courses	*(2021–2023)*
MIT AMP – Graduate Mentor for Underrepresented Students	*(2024)*
HISD ATM – Ascending to Men	*(2024)*

LANGUAGES

Spanish (Fluent)