

# Ruben Calderon

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## Education

**Georgia Institute of Technology**  
*Master's of Computer Science*

**Aug 2024 - Present**

**University of California, Santa Cruz**  
*Bachelor's of Computer Science*

**Sept 2018 - Jun 2022**

## Professional Experience

**Software Engineer ([Game Page](#))**

**Aug 2022 – Jul 2024**

*Everi Games*

- **Shipped two slot-game titles in Unity**, engineering modular gameplay systems (wheel-spin physics, anticipation cues, progressive-award logic) reused across multiple titles, accelerating early-milestone development by ~5%.
- **Drove agile execution as feature-lead across Math, Art, and Audio teams**; improved on-time sprint delivery from 70% → 93% by refining backlog grooming, milestone scoping, and cross-discipline alignment.
- **Assisted development of internal debug tooling** to visualize RNG events, reel outcomes, and timing windows, reducing QA verification overhead and speeding up math-model validation cycles.
- **Expanded the studio's animation-systems library** with a reusable anticipation-randomization framework, enabling smoother prototyping and reducing iteration costs for feature teams.
- **Optimized core gameplay loops** by profiling GC allocations and animation triggers—cutting frame spikes during peak visual sequences across target hardware.
- **Authored and presented formal Code Architecture Documents** that clarified implementation plans, system boundaries, and technical risks for new game features.

## Projects/Publications

**XR Home Defense Simulator**

**Dec 2025 - Present**

*Project Lead*

- **Developed a mixed reality application in Unity 6** targeting Meta Quest headsets, leveraging spatial computing to blend physical room geometry with virtual threat scenarios for immersive combat readiness training.
- **Implemented a physics-based ballistic and weapon system** featuring raycast hit detection, multi-target penetration modeling, and civilian-versus-combatant feedback to reinforce rules-of-engagement awareness.
- **Engineered a dynamic threat placement system using real-time room scans** and procedurally distributes hostile targets across valid spawn regions while enforcing spatial constraints.
- **Architected a modular game flow state machine** (Setup, Active, Debrief) with event-driven transitions and post-session statistics gathering to support structured after-action review.

**VR Bartending Simulator**

**Sep 2025 - Present**

*Project Lead*

- Designed and built a full VR bartending training simulation in **Unity 6**, incorporating complex **liquid-pouring physics**, **multi-source particle collision handling**, **procedural drink-mixing**, and **real-time state management** across bottles, shakers, cups, and customer AI.
- Engineered robust **XR Interaction Toolkit** systems, including custom hand controllers, dynamic object slotting, grab logic, tool-specific interactions (bottles, shakers, cups), and UI/UX optimized for VR novices and experienced operators.
- Implemented a multi-layer **liquid simulation pipeline** with Shader Graph, screen-space materials, overflow logic, dynamic coloring/mixing, and accurate visual feedback tied to underlying drink-quality logic.
- Built a real-time **quality evaluation + tipping system** integrating performance metrics (accuracy, timing, service quality) with gameplay feedback loops.
- Created **real-time scriptable-object editing & serialization** so businesses can input custom recipes for their training programs.

## Expertise

**Technical Skills:** Unity 6 2D/3D/XR, C#, Game AI, System Design, Animation Systems, Procedural Generation