

EXPERIENCE

Senior VR Experience Designer & Software Engineer

April 2020 - July 2024

RealizedCare | Nashville, TN

- Designed and developed VR experiences in Unity and C# for physical therapy, chronic pain relief, and mental health education, targeting Meta Quest 2 headsets with patient-facing activities and clinician authoring tools.
- Delivered therapeutic VR app *Mind & Motion* to 8,000+ patients across 22,000+ clinical encounters, validated by 2 randomized controlled trials: 20% greater likelihood of clinical disability reduction, 2.5x improvement in pain catastrophizing
- Managed the design process for a cross-functional team of 4+ people, including brainstorm facilitation, rapid prototyping and testing, documentation, and handoff to the development team.
- Developed VR experiences and tools in Unity3D and C#, targeting Meta Quest 2 Headsets.
- Established technical art standards and developed custom shaders to improve visual fidelity and performance across the company's full product suite.

Interaction Designer & Developer

June 2018 - January 2020

The Escape Game | Nashville, TN

- Worked with game team to develop new game concepts, including TEG's *The Depths*: helped to define the core narrative, drafted initial room layouts, and prototyped environments and puzzles at scale.
- Redesigned failure-prone puzzle components using web technologies and embedded systems: rebuilt 8-hour hand-soldered LED array as HTML5/PIXI app on Raspberry Pi with Arduino serial controls, reducing assembly time to 1 hour and improving reliability.
- Designed modular physical prototyping system (standardized door frames, puzzle-height blocks, rollable walls) inspired by game engine whiteboxing tools, enabling full-scale playtesting in multiple configurations before construction commitment
- Prototyped a networked, competitive game room allowing competition between multiple stores, while integrating physical interactions in the room. Built with Unity 3D, Mirror networking library, Arduino & PLCs.
- Designed and led user centered research initiative to inform redesign of The Escape Game stores, including guest interviews, journey map creation, analysis and recommendations.

Game Developer

November 2016 - June 2018

WGBH | Boston, MA

- Designed and developed educational mobile and web games including PBS's Emmy-nominated *Feed the Fidgets*.
- Owned full development cycle from concept through deployment for educational games and interactive experiences for PBS Kids, NASA, and Microsoft using JavaScript and CreateJS.

Game Programmer

January 2015 - December 2015

Cloudkid Studios | Boston, MA

- Programmed mobile and web games for PBS Kids (*Park Builder*, *Measure Up!*) and Sesame Street (*Playdates*) using JavaScript and PIXI JS, implementing A* pathfinding, save/load systems, and seasonal environment transitions.

Selected Projects

Dream OS 2026

ATLAS Institute, CU Boulder | Boulder, CO

Directed and developed a 4-act circus show fusing live aerial and dance performance with panoramic Unity visuals across a 360° projection-mapped studio, integrating choreographed Unity Timeline animations with live performance data.

Connection Garden 2025

ATLAS Institute, CU Boulder | Boulder, CO

TouchDesigner-based installation using projection mapping, Intel RealSense cameras, and DMX lighting to facilitate interpersonal connection through guided conversation in a projection-mapped greenhouse environment with AI-generated visuals via Stream Diffusion.

Beatboi 2025

ATLAS Institute, CU Boulder | Boulder, CO

Designed and fabricated a 4-track Euclidean drum machine built on a Teensy 4.1 microcontroller, with custom audio DSP, daisy-chained encoder/key modules over I2S, and a laser-cut, glue-free enclosure.

Interactive Installations 2016 - 2017

3Spooky | Boston, MA

Designed and installed interactive projection experiences for live music festivals combining Unity, Kinect motion tracking, and real-time audio reactivity, including a cyberpunk narrative diorama with motion-capture holograms (Together Festival, Play! NYC) and a meditative character installation (Fractalfest).

EDUCATION

MS Creative Technology *(in progress)* 2024-2026

University of Colorado Boulder

BA Interactive Media Design 2014

Emerson College | Boston, MA

Cum Laude | Outstanding Senior Award for New Media

Skills

Game Engines & Development: Unity (C#, tool development, shader programming), Unreal Engine

Interactive Systems: TouchDesigner, Arduino/Serial, Computer Vision (Kinect, RealSense)

3D: Blender (modeling, animation, Geometry Nodes), Substance Designer/Painter, SketchUp

VR Development: Meta Quest deployment, VR interaction design, Android XR platform optimization

Hardware: Parametric hardware design in Rhino & Grasshopper, microcontroller dev, fabrication

Mobile & Web: JavaScript, PIXI JS, Three JS, HTML5