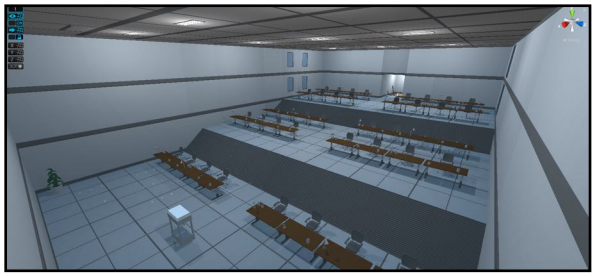
Statement of Suitability/Interest in Advancing XR and Education Research

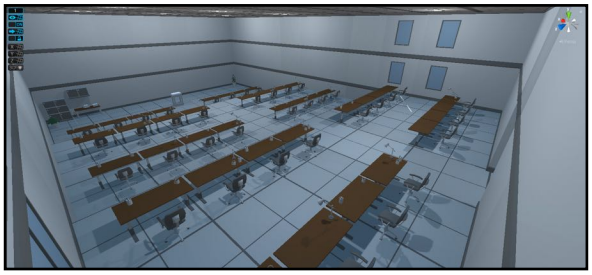
This document serves as an overview of the research endeavors I have pursued during my career so far.

Project 1: Intersections of Education and XR Literature Review

I research innovative ways to redefine distance learning that are more immersive, effective, and engaging than they are currently. Using innovations in XR/VR/AR/HCI, we are able to re-imagine what a learning environment can be. We aim to study the impacts of these new findings with participants to gauge memory retention, subject fluency, instructor presence, learner-engagement, fatigue, etc. We also explore ways to make this content easy for educators to create, which is an established problem in distributing VR/AR education.

- Our Literature Review
- Initial Proposal Document
- Along with collaboratively writing the literature review, I created a demo lecture hall environment using the Unity Engine for user studies:

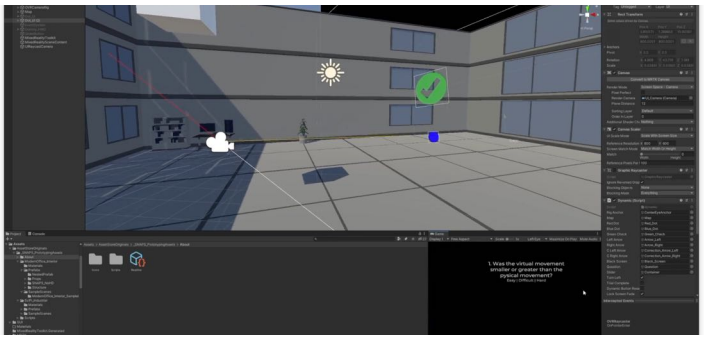



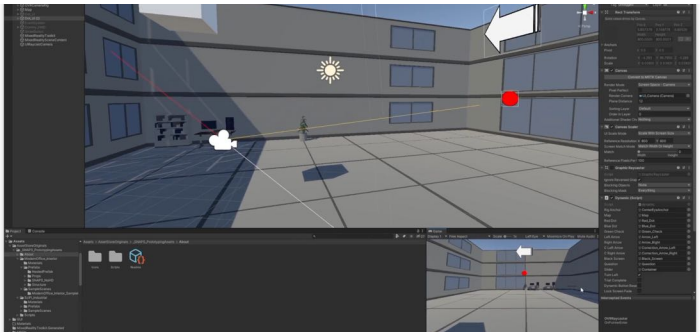
Project 2: Redirected Walking Threshold Detection Study

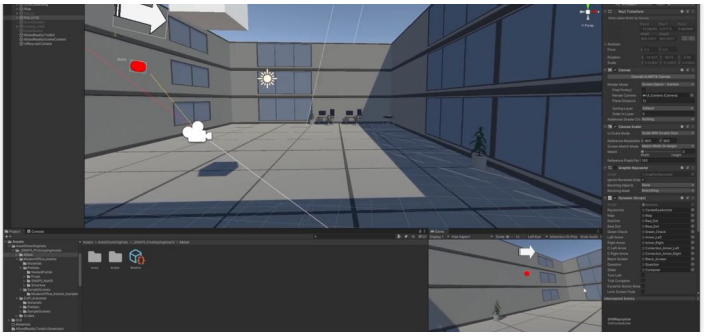
Uses the Unity Engine and C# to lead software implementation of the UMD GAMMA Labs Redirected Walking Thresholds Experiment administration software.

Software Demonstration of the Project's Administration Software
(Click Image to go to video)

Assorted Screenshots:



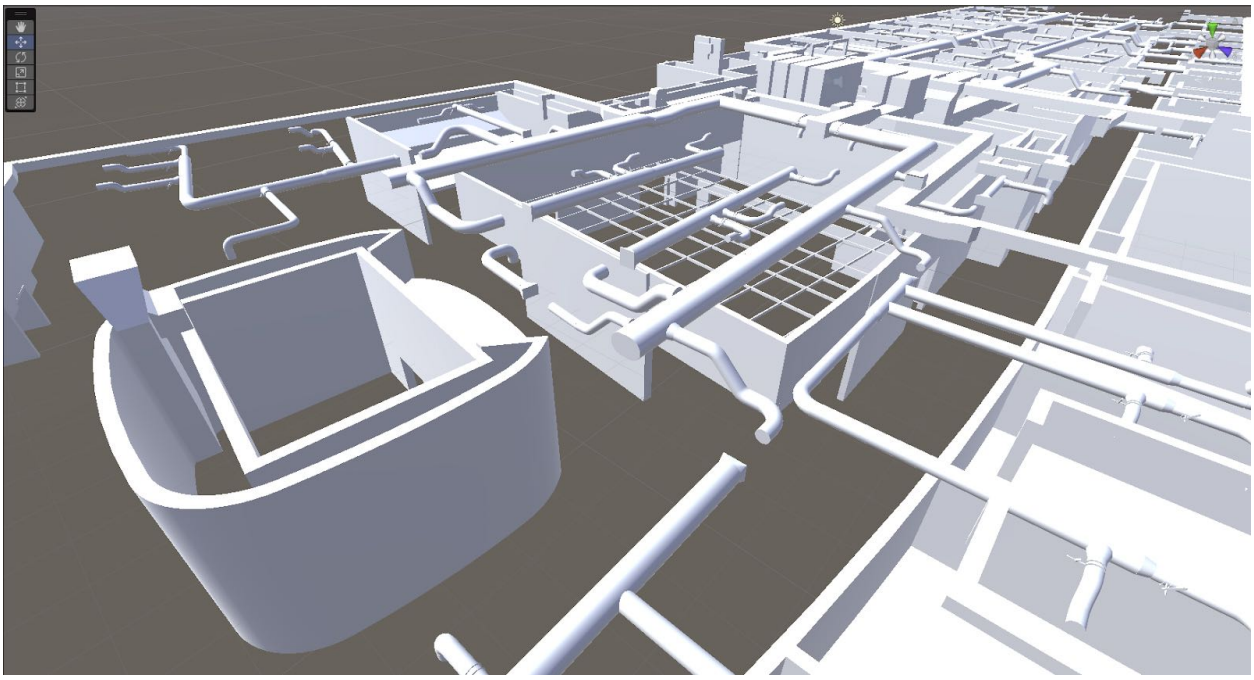




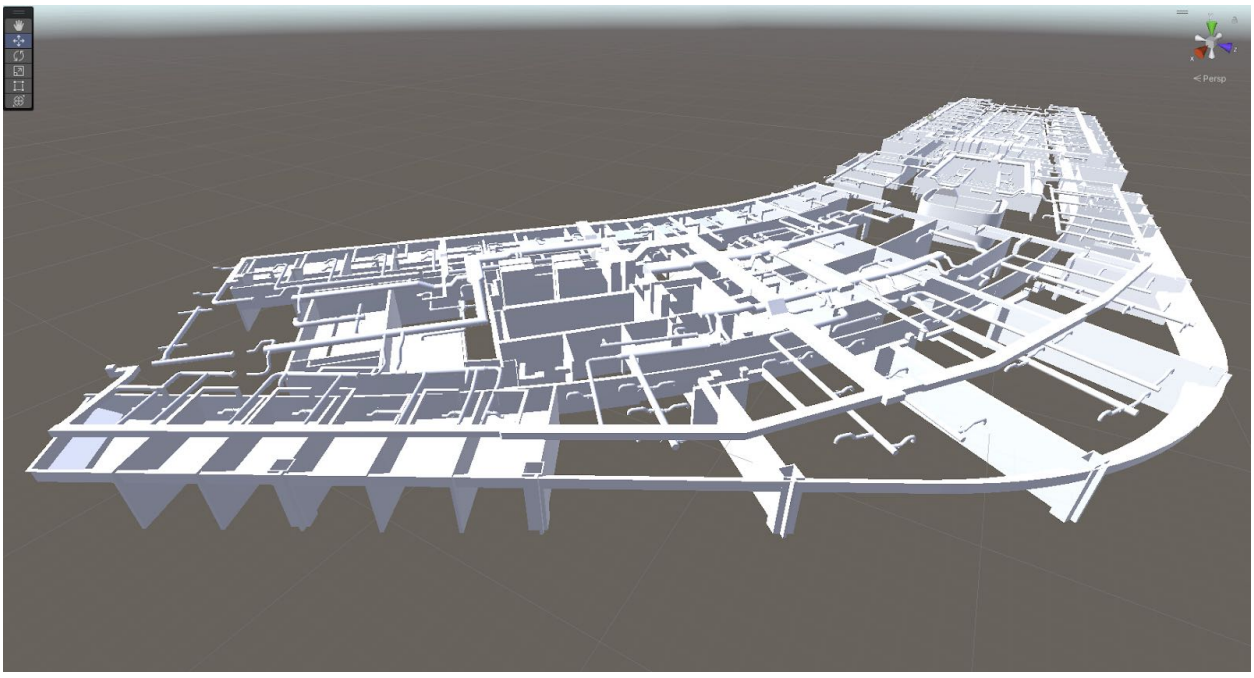
Project 3: AR-Assisted Building Maintenance

Uses the Unity Engine and the Microsoft Mixed Reality Toolkit (MRTK) to implement the UMD MindLab AR-Assisted Building Maintenance Project.

- Main Project Informational Webpage
- Final Project Presentation Slides
- Software Demonstration Video



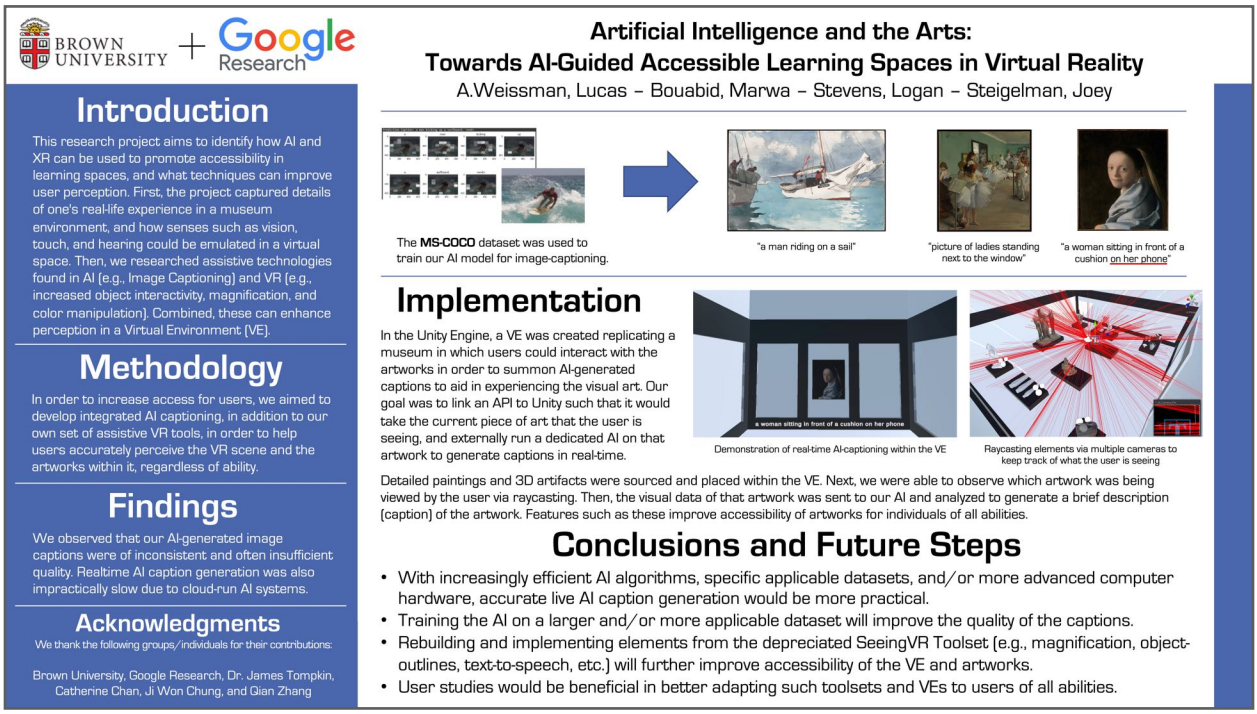
3D Model of the Ductwork and Outline of the Iribe Building (1)



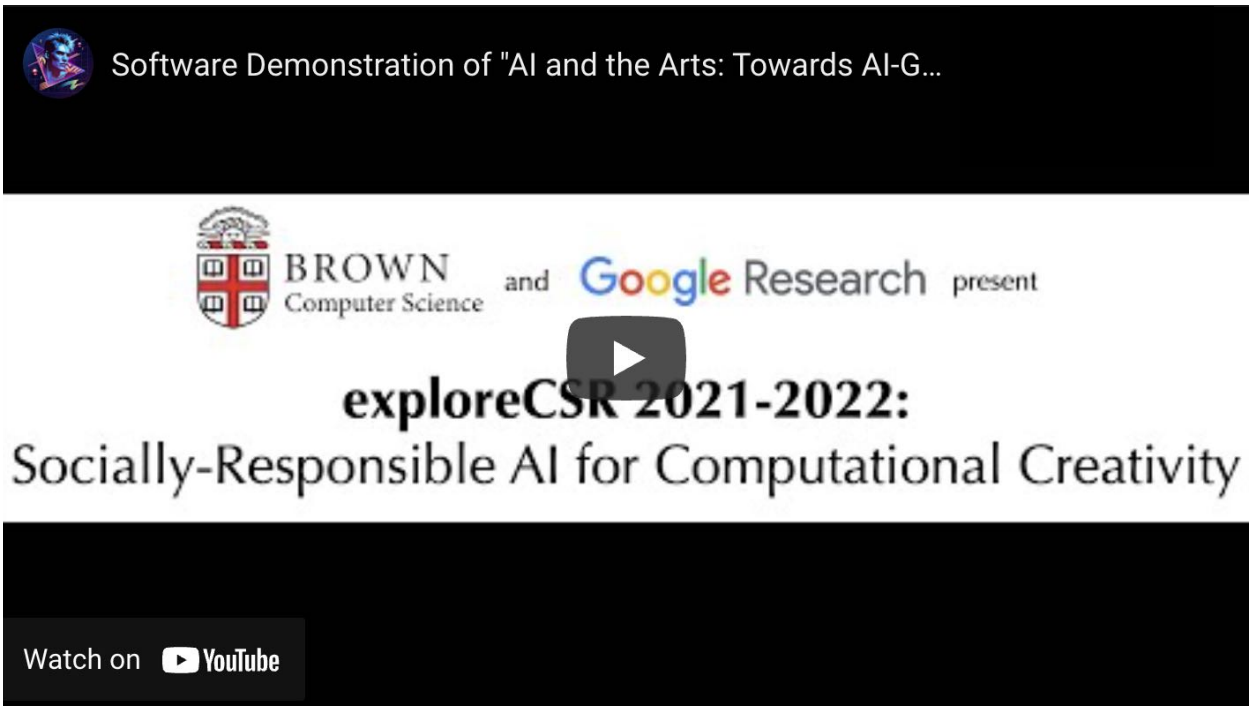
3D Model of the Ductwork and Outline of the Iribe Building (2)

Project 4: Brown University | exploreCSR | “Artificial Intelligence and the Arts: Towards AI-Guided Accessible Learning Spaces in Virtual Reality”

- My Summary of The 7th Annual Brown Computer Science Research Symposium
- exploreCSR Program Description



The Research Poster for “Artificial Intelligence and the Arts: Towards Accessible Learning Spaces in Virtual Reality”
(Click the picture for higher resolution)



Above is a gallery of my trip to Brown University in which my research project placed 3rd among many other innovative projects presented at the symposium. For more information, please see my summary page, linked above.

I hope to continue pursuing research, education, and teaching in the field of computer science. I have a passionate and demonstrated career in this already as an instructional designer, instructor, and XR researcher. I find it essential that LGBTQ+ individuals such as myself are represented in science and academia. I currently pursue multiple research projects in the areas of XR, education, and AI, in addition to working in many educational roles. I find teaching to be one of the most rewarding experiences. Helping others not only in proficiency but also honing their ability to see beauty and simplicity in STEM feels like I have opened an entirely new sense for them, making this world a much better place.

Computing is the backbone of modern society. Pursuing an education in the field of computer science allows me to tackle real-world problems in ways that are not possible in many other majors. When the COVID-19 Pandemic struck in 2020, I was an Instructional Design Intern at my University. Suddenly, we needed to take nearly every course and convert it into a distance learning format. My background in web design and education allowed me to contribute a great deal to this endeavor.