VR Decal Final project

I took the VR Decal which is a student lead course that teaches VR game development with Unity and Oculus Rift. For the final project my four-person group developed a creative sandbox game that allowed users to interact with their environment using “the Force” from Star Wars. Players have a great feel for the weight of virtual objects and our controls provide a very intuitive representation of what it would feel like as a Jedi. You can throw a wide assortment of objects at a large broken wall, play with an extremely heavy Jenga tower, or even pull down the moon if you have enough strength! Our project was very well received and nearly everyone loved the awesome feel of power from using the force.

(This project is currently in further development by a third party so there is no public repo, but feel free to contact me for details! Also check out the demonstration video)

SICK

I pioneered an Augmented Reality Data Visualization tool for damage and tamper detection of packages in the warehouse and factory environment. My project integrates SICK’s Logistics analytics service with the Android augmented reality platform.

SLAC

I had the great opportunity to do some research at SLAC in sophomore and junior year of high school. Later, I returned as an official research intern during the summer after my Freshmen year of college. In 2018, I investigated sideband detection methods for Self-amplified spontaneous emission free-electron lasers (SASE FEL), developed software model for thin crystal spectrometer, and furthered development of AI assisted diagnosis of Alzheimer’s. In 2016, I produced research about the automated early stage diagnosis of Alzheimer’s with machine learning and image processing. I also worked with neurologists and physicians from the Alzheimer’s Association. In 2015, I conducted research on artificial intelligence optimization for an X-Ray free electron laser and gained experience developing neural nets built with the PyBrain AI library. Co-authored paper published in Nuclear Instruments & Methods.

Catan Dice

I used to play a LOT of Catan. Nearly every night over the summer my friends and I would gather for an exciting match that usually ran late into the night. We had issues with our dice, so I wrote this dice roller to do the dirty work of generating random numbers. It takes random numbers from RANDOM.org which generates truly random numbers from atmospheric noise. This is actually my second version and the first version was a 2D dice roller with a helpful graph to track the numbers that were rolled.