Projects

Images 1280x720

Capstone

* A custom-built robotic arm that utilizes a VR headset and controller to mimic a user’s arm movement.
* Many robotic systems that utilize remote user operation have very complicated systems in place for the user to control the robot. These systems can require multiple computers and multiple human operators for the simplest actions. This system is designed to allow for a user to control a robotic arm remotely in the simplest and most intuitive way possible.

Luminosity

* CHARLOTTE
  + CHARLOTTE is developed to operate as a scientific exploration rover tasked with searching permanently shadowed craters on the Lunar south pole in search of water ice and geological signs of other volatiles.
  + CHARLOTTE is an extreme mobility lunar rover tasked with exploring the permanently shadowed craters of the Lunar south pole. The system provides a stable platform that can traverse inclines of up to 60 degrees.
  + I worked on this project while a part of the Luminosity Lab. We were selected as one of the finalists in the 2022 NASA Big Idea Challenge. Through this we were given funding to develop the CHARLOTTE system. Big Idea Challenge 2022 Finalists: <https://bigidea.nianet.org/2022-finalists/>
  + My primary contribution to this project included simulation, mechanical design, and control system/software development.
  + Simulation
    - For this project I used Ansys to perform numerous simulations both to aid in the design process and to validate physical tests.
    - Pictures
  + Proposal
  + Final Report COMING SOON
* VELOS
  + Simulation
    - Drop test
    - Thermal
    - Random vibration
    - Thermal vac validation
  + Launch Video
  + Final Report
  + After completing the project, I presented my simulation work at the 2021 Simulation World Conference.
  + Additionally, I was invited on to the All Things Ansys podcast to talk about my simulation work and an article was written on the official Ansys Blog to talk about how simulation was implemented to support this project.
* Starbucks Washer?
* Axon?
* Landmine
* Starbucks VR?
* NFL Helmet

ADDictive

* ADDictive is a mobile game developed using Unity for both iOS and Android. The game is similar to Suduko and requires players to use addition to fill in the missing numbers in a 3 by 3 grid so that all columns and rows add up to the provided solutions.
* App Store: <https://apps.apple.com/us/app/add-ictive/id1468671771>
* Google Play Store: <https://play.google.com/store/apps/details?id=com.Crunchy.Addition>

Clan Base

Skills

* Ansys
  + Structural
  + Thermal
  + Random shock and vibe
  + Dynamic
* Flownex
* Programming
  + C#
  + Python
  + React
  + Javascript, CSS, HTML
  + JSL
  + VBA/VBS
  + Java
  + Ruby
* MATLAB
* JMP
* ROS
* MoveIt
* AR/VR
* CAD
* Unity
* Git