Henrique Foureaux Lee

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Education

Carnegie Mellon University, School of Computer Science (CMU)
B.S in Computer Science with a Concentration in Computer Systems | 2022-Current
GPA: 3.78/4.00 | Expected Graduation 05/26.
Relevant Coursework: Interactive Extended Reality (05499), Introduction to Systems (15213), Great Ideas in Theoretical Computer Science (15251), Vector Calculus for Computer Science (21266), Principles of Imperative Computation (15122)

Singapore American School (SAS)
High School Diploma, Magna Cum Laude | 4.30/4.50 | Graduated 05/22
Leadership: Educating Children of Hispanic Origin (President), Computer Science Honor Society (Co-president), Computer Science Tutoring (Head Tutor), Varsity Soccer (Captain)

Skills

Programming Languages: C#, JavaScript, Java, Python, SML, C, HLSL, Swift, HTML/CSS
Game Engines: Unity, Unreal Engine 5, GameMaker
Unity XR SDK's: XR Interaction Toolkit, Oculus VR Integration Toolkit, VIVE Wave
Languages: English (Native), Spanish (Native), Portuguese (Native), Mandarin (Advanced)

Projects

Exploring the Limits of AR Body Ownership through Acupuncture Simulation *(Ongoing)*
Created an augmented reality acupuncture simulation for the Oculus Quest Pro by leveraging Meta's Oculus VR Integration Toolkit for Unity. Collaborating University of Pittsburgh's medical department in planning a medical study exploring whether AR acupuncture can be used as a placebo in acupuncture treatments. (APL Research)

Media Pipe to Mesh Hand Tracking Pipeline
Developed a pipeline bridging Google's Media Pipe Hand Tracking and the Unity virtual environment. The pipeline takes in a live camera feed or prerecorded video and tracks the movements and gestures of a designated pair of hands present in the, creating a seamless mapping to a pair of hand meshes within Unity (APL Research).

XR Lightweight Hand Pose Recognizer
Designed and thoroughly optimized a Unity system that allows developers to create custom hand poses that can be recognized by any Unity compatible XR headset (Oculus Quest, Vive Pro, etc). Developers can then control program behavior when poses are executed, held, and terminated. (Personal Project)

Investigating the Impact of Interaction Techniques on Immersion in VR Environments
Created and tested three virtual reality game simulations featuring distinct deliberately flawed interaction techniques. Leveraged these environments in a 10-person user study to analyze and quantify the effects that the flaws had on user immersion. (APL Research)