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: 3.67/4.00 | 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#, C++, JavaScript, Java, Python, SML, C, HLSL, Swift, HTML/CSS
Game Engines: Unity, 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 *(Ongoing)*
Developing a pipeline bridging Google's Media Pipe Hand Tracking to virtual hand meshes in a 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 (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)

Icospheres Capable of Evolution (ICOE)
Designed a framework consisting of ~21 Unity components and backend classes that implement a dynamic behavior tree through genetic algorithms, allowing game developers to create in-game entities that evolve based on interactions with other entities as well as their environment. (Personal Project)