JUAN DIEGO MENDEZ

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EDUCATION

The University of Texas at Austin, Austin, TX Jan 2022 – May 2025
Bachelor of Science in Computer Science - Overall GPA: 3.33

SKILLS

Programming Languages: *C#, Python, C, C++, JavaScript, TypeScript, Java, HTML, CSS, SQL.*

Tools: *Unity, VS Code, Scikit-learn, TensorFlow, Blender, WebGL, Docker, Git, Bitbucket, Node.js, OpenCV*

Languages: *English (Proficient), Spanish (Proficient)*

Domains: Machine Learning, Computer Vision, Computer Graphics, VR/AR, Image Processing, Algorithms

WORK EXPERIENCE

Monkeyflux S.L., Madrid, Spain (remote) Jun 2023 – Aug 2023
Software Engineer Intern

- Enhanced the MonkeyFlux Babuin's front-end functionality by improving the website's UI and addressing code issues. This task involved bug tracking and fixing, new feature implementations, and active collaboration using TypeScript, HTML, CSS, Node.js, and SQL in a local environment through a Docker container and WSL, gaining proficiency in web development technologies.

PROJECTS

Research on Mixed Reality Environment Interactions using a Depth Camera, Austin, TX Jan 2024 – May 2024
Principal Investigator: Developed a system that allows real-time interactions between virtual objects and physical space.

- Integrated the system with an Oculus Quest 2 headset and an Intel RealSense D435 depth camera employing voxel-based approaches for acceleration and optimization.
- Wrote a research paper where tests were conducted to evaluate the system's performance, demonstrating processing times within acceptable bounds for real-time applications.

Cooperative Virtual Reality Game, Austin, TX Aug 2023 – Dec 2023
Developer: Worked with a team to develop a cooperative virtual reality (VR) game.

- Developed using Unity and C#, the gameplay focusing on collaboration, resource management, and immersive combat. Worked on the immersive VR control system, and the interactive crafting system with modular weapon system combinations, leveraging computer graphics techniques.

VirtualMouse AI, Austin, TX Sep 2023 – Sep 2023
Developer: developed a real-time hand tracker, gesture recognition, and control system.

- Integrated Designed a real-time hand tracker, gesture recognition, and control system using Python, Google's Mediapipe model, OpenCV, and PyCaw libraries. Incorporated Computer Vision and Machine Learning techniques.

AR Game, Austin, TX Oct 2021 – Dec 2021
Developer: Developed an Augmented Reality (AR) video game

- The AR game consisted of a 3D maze overlaid on a real-world environment using a QR code, allowing users to physically move around the interactable to complete the game. It was developed with the use of Unity and Visual Studio, making use of C#.

ACTIVITIES & LEADERSHIP

Longhorn Neurotech, Austin, TX Sep 2024 – Present
Subsystem Lead for VR Design

- Leading the development of a VR environment as part of the Neurotech club at UT Austin, designed to integrate seamlessly into a brain-computer interface (BCI) framework. This system leverages EEG data and ML Algorithms to decode neural activity, transforming brain signals into actionable inputs for the VR environment.