Damian Figueroa

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Education

University of Maryland   August 2021 - December 2024

B.S. in Computer Science, Minors in Cybersecurity and Spanish (GPA: 3.971)

Programming Languages: C#, HLSL, TypeScript/JavaScript, Swift, Java, Python, Objective-C/C/C++, Bash

Relevant Coursework: Computer Graphics, Computer Vision, Linear Algebra, Computer Networks, Advanced Data Structures

Tools: Unity + Shader Graph, React/React Native, SwiftUI, ARKit, OpenCV, Blender, MongoDB, Payload CMS

Technical Experience

Amazon Alexa Device Management Tool   June 2024 - August 2024

Amazon, Alexa Audio Playback Experience - Amazon Propel Program Software Engineer Intern

- Enhanced an internal device management tool to significantly improve usability and cut down on time-consuming processes.
- Utilized TypeScript, React, DynamoDB, and Java, along with modular design patterns like dependency injection.
- Actively integrated feedback from mentors and customers to ensure that user requirements were consistently met and exceeded.

VR Weather Visualization & Geoscience Education   June 2022 - Present

Earth System Science Interdisciplinary Center at University of Maryland - Software Developer Intern

- Created shaders and dataset parsers to visualize the El Niño phenomena and supercell thunderstorms.
- Designed VR/MR educational modules about geoscience subjects like cloud identification and lightning safety.
- Presented work at the White House, American Meteorological Society, NOAA CoRP Science Symposium, and Mid-Atlantic Severe Weather Conference.

MR Fire Evacuation Training - Winner of Enhanced Learning Track at MIT Reality Hack   January 2024

- Developed a track-winning MR fire-evacuation app that allows users to practice fire evacuation in their own setting with Unity and the Meta Quest Depth and Scene APIs.

VR Phonics & Literacy Education   January 2024 - Present

Imagining Reality & Insights Solutions - Software Developer

- Designed and implemented UI for in-game menus and systems to facilitate educational workflows within the application.
- Developed an event-based data-collection system using SQLite, TypeScript, and MongoDB to research student performance.
- Handled the deployment of the application to the Meta Quest App Lab to deliver our application to testers.

Traumatic Brain Injury VR Rehabilitation Research   April 2022 - 2023

Laboratory for Neurodevelopment of Reading and Language at University of Maryland - Software Developer Intern

- Built hand-tracked mini-games and user-interfaces using Unity and the Oculus Interaction SDK.
- Implemented a HIPAA-compliant data-collection system to gather and upload patient performance data.
- Developed a backend using TypeScript and MongoDB to remotely receive patient data and manage their gameplay experience.

NASA SUITS AR Challenge   January 2023 - May 2023

- Developed an intuitive AR interface using Unity and Microsoft's HoloLens 2 and Mixed-Reality Tool Kit.
- Led the final presentation of our team's project at NASA's Johnson Space Center.
- Co-hosted outreach workshops at local elementary schools to showcase VR/AR technology and career paths.

Leadership Experience

XR Club at University of Maryland   January 2023 - May 2024

President

- Hosted numerous educational workshops and office hours to over 100 students on topics such as Unity development, shader programming, and XR tracking systems.
- Actively engaged with club members, leadership, and university staff to foster a student community of over 900 members.

Intercollegiate Extended Reality   January 2024 - December 2024

Co-President

- Organizing and hosting recreational/professional events to engage an international audience of XR student enthusiasts and industry professionals.
- Collaborating with student leaders to build a platform for students to showcase their XR projects and professional work.

Projects

Homemade Virtual-Reality Body Trackers

- Created a set of 3D-printable computer-vision ArUco markers that assist in tracking a user's body pose.
- Developed a driver for SteamVR using C++ to process incoming tracker position/rotation data from a UDP connection.
- Developed an iOS application using Swift, Objective-C, and OpenCV to track markers and send their orientations to the SteamVR driver.