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Objective

Apply my passion for engineering to a role focused on application, engine, or graphics development.

Experience

Apple Inc. — Software Engineer (December 2018 - Present)

In Apple's Technology Development Group, I am the owner of the accuracy for the Measure App. Measure is an Augmented Reality (AR) app installed on billions of iPhones worldwide.

Key Contributions

- Designed, developed, maintained an automated system that verifies Measure's accuracy on all supported iOS devices. Results from this system were mission-critical to validating the latest iPad's LiDAR sensor prior to release.
- Created a standardized approach to AR accuracy verification, adopted by my entire
 organization. My approach enabled ARKit, Reality Composer, AR Quick Look and Reality Kit
 teams to streamline their process and quantify accuracy.
- Contributed several user interface improvements and bug-fixes to the Measure App.
- Created internal prototypes that verified RealityKit Framework APIs prior to public release.
- Presented talks and demonstrations of AR technology, impacting my entire organization's familiarity with AR, and further advocating for first-class AR design principles.

Cisco Systems Inc. — Software Engineer (August 2017 - December 2018)

In Cisco's Data Center Switching Business Unit, I implemented code to automate verification of new Data Center Switching Products. I supported the release of three products from design through to the distribution stages.

Key Contributions

- Championed an Object-Oriented development approach to automated verification, reducing onboarding time for new product introduction.
- Created internal Virtual Reality prototypes that visualize live network attack data, sourced from new security features, used in management demos prior to public release.

Skills

 $C++ \cdot Python \cdot C\# \cdot Swift \cdot C \cdot bash \cdot SQL \cdot HTML \cdot CSS \cdot Windows \cdot Linux \cdot MacOS \cdot iOS \cdot Unity \\ Engine \cdot XCode \cdot git \cdot Ableton \cdot Blender \cdot Audacity$

Projects

Asteroids — Game Engine (C++, OpenGL, GLSL)

A game written in a small game engine that features an Entity-Component-System Structure, events for input and collision detection, custom shaders, and various convenience methods for 3D transforms.

Shaders (GLSL, Graphics)

A collection of realtime graphics programs targeted at game development and visual effects development.

Throw, A VR Verb (C#, Unity, HTC Vive, VR Design, Prototyping)

A VR Prototype that demonstrates user interaction through action verbs in VR. The user is encouraged to throw objects as a method of interaction with the environment.

Game Development (C#, Unity)

Rapid prototypes of experimental gameplay demonstrating spatial audio design, user interface implementation, graphics development, particle and physics system, puzzle mechanics, and arcade gameplay.

Education

B.S. Computer Engineering — North Carolina State University (2013 - 2017)