

# EMILY O'NEAL

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## EDUCATION

**BS IN COMPUTER SCIENCE - CAL POLY STATE UNIVERSITY, SAN LUIS OBISPO** **JUNE 2021 (EXPECTED)**

**Concentration in Interactive Entertainment, Minor in Dance, GPA: 3.5**

**Courses:** Computer Graphics, Mixed Reality, Algorithms, Programming Languages, Systems Programming, Computer Graphics, Discrete Structures, Software Engineering, Architecture, Object-Oriented Programming, Calculus, Linear Algebra

## EXPERIENCE

**R&D SOFTWARE ENGINEERING INTERN, PLAYSTATION [SAN FRANCISCO]** **SUMMER 2020**

Contributing to the proof of concept for an application reimagining how people play games virtually. \*confidential\*

Developing the design, functionality, and graphics of a multiplayer online game and integrating into the larger platform.

Exploring how immersing technologies can enhance and immerse people in games.

**TECHNICAL LEAD FEARLESS FITNESS [SAN LUIS OBISPO]** **2020 - PRESENT**

Contributing technical expertise to a startup of 8 people designing a product that brings interactive video gaming to fitness.

Creating a web-based platform that gamifies virtual HIT workouts as the sole technical contributor.

Experimenting with motion tracking and wearable technology to build a fully immersive user experience.

**UNDERGRADUATE RESEARCHER, MIXED REALITY LAB [SAN LUIS OBISPO]** **2020 - PRESENT**

Developing real-time mapping software that allows the human body to be a physical canvas for projected images.

Directing a live performance with Kinect and projectors so that the dancers are able to interact with visual effects.

**EMBEDDED SOFTWARE ENGINEERING INTERN, CISCO [SAN JOSE]** **SUMMER 2019**

Developed test automation and execution of next-generation routing products for the Service Provider Network System segment.

Implemented an internal testing framework to increase code coverage in the networking layer, specifically the ACL and QoS.

Gained experience with large shared code bases and specific frameworks for scaling.

**CURRICULUM DEVELOPER & EDUCATOR, CODE NATURALLY [SANTA CRUZ]** **2016 - 2018**

Developed curriculum, designed educational presentations, and taught JS Processing to hundreds of students.

Shaped the company's commitment to providing students of all backgrounds and interests with relevant and engaging material as one of the first three employees by emphasizing project-driven learning.

## PROJECTS

**MOTION TRACKING IN VIRTUAL REALITY, CAL POLY [SAN LUIS OBISPO]** **SPRING 2020**

Controlled a character in virtual reality with a motion capture suit and a Kinect camera using Unity.

Compared which type of motion tracking technology would make the virtual experience more immersive.

**HUMAN MOTION CAPTURE, CAL POLY [SAN LUIS OBISPO]** **FALL 2019**

Created an animated dance where different parts of the body left trails, creating a paint brush effect.

Worked with the Axis Neuron Motion Capture suit to collect data and OpenGL to convert the data into an animation.

**HACKATHONS, JUNCTION [ESPOO, FINLAND] AND CAL HACKS [BERKELEY].** **WINTER 2018**

Integrated the Google Maps API to create automatically generated routes based on certain, user criteria.

Developed algorithms to translate the data given by Google Cloud's natural language processing API into searchable phrases.

## LEADERSHIP

**OFFICER, WISH - Created more accessible spaces for underrepresented students to expand their technical skills** **2018 - 2020**

**FOUNDER, ENVISION - Spearheaded Cal Poly's first high school hackathon for students along the central coast** **2019**

**ORGANIZER, SLO HACKS - Coordinated 6 hackathons, raising 70k+ and serving over 400 university students** **2017 - 2019**

**FOUNDER, SCTECH - Conceived and organized the first hackathon benefiting 7th-12th graders in Santa Cruz** **2016 - 2018**

## LANGUAGES / SKILLS / INTERESTS

- Python, GLSL, JavaScript, C++, C#, C, Java, CSS, HTML, R, BASH, Assembly, LINUX/UNIX
- Collaboration with GitHub & Slack, Graphics with OpenGL & WebGL, Game Development with Unity & PlayCanvas
- Mixed Reality, Interactive Entertainment, Computer Science Diversity Outreach, Dance