

# Mika Peer Shalem

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## EDUCATION

### University of California, Santa Cruz

SEP 2021 - JUN 2025

- B.S. Computer Science: Game Design & B.S. Cognitive Science (Human-computer interaction focus)
- University Honor: Summa cum laude | GPA: 3.97 | Dean's Honors (11-time recipient) | College Scholars Program

## PROFESSIONAL EXPERIENCE

### Virtual Reality Developer Intern - Fogarty Innovation

JUN 2025 - AUG 2025

- Developed a Unity-based game (C#) for VR/MR with data logging that serialized states into JSON
- Implemented procedural object trajectories using spline algorithms, combined with object pooling to optimize performance and maintain smooth 60+ FPS performance
- Managed the full development cycle from prototype to playtests to polish, iterating based on player feedback
- Implemented event-driven feedback system linking player actions to animation and UI updates, supporting adaptive difficulty adjustments

### Virtual Reality Developer Intern - Immergo Labs

JUN 2024 - JUN 2025

- Built a VR tool in Unity that enables users to create, save, and share custom physical therapy programs
- Implemented a JSON-based data storage system on AWS S3 with versioning to reduce redundant uploads
- Engineered a waypoint authoring system tracking joint positions using biomechanics to allow creators to design motion paths, and dynamically adjusted paths based on user height to ensure accessibility
- Developed a tutorial system as an event-driven state machine that advances dynamically based on user actions

## RELEVANT EXPERIENCE

### Research Assistant - High-Level Perception Lab

APR 2023 - PRESENT

- Developed a MATLAB-based experiment and integrated eye-tracking via the Gazepoint API for calibration, gaze recording, and automatic data logging, contributing to research presented at Vision Sciences Society
- Built a Python data analysis pipeline to process gaze metrics across subjects and trials for over 100 subjects
- Developed a tool to synchronize timing across multiple datasets to ensure accurate alignment of coordinates

## PROJECTS

### Colony 19: Steam Published VR climbing game - Game Design Capstone

Unity C# (2025)

- Developed a procedural hand-grabbing animation system in Unity using reusable hand-grabbing prefabs with configurable orientations, enabling consistent interactions across diverse 3D surfaces
- Redesigned physics and collisions systems to create accessibility modes, with corresponding UI
- Optimized project size (<200 MB) and maintained a 60+ FPS framerate, delivering smooth performance on target hardware

### Online Co-Op Survival Shooter - Tools Lead

Unity C# (2025)

- Implemented online multiplayer using Unity Netcode for GameObjects and Relay server for smooth synchronization of the game state
- Built a modular weapon system with a class hierarchy to easily add new weapons, and designed an in-game UI

## SKILLS

**Technical Skills:** C#, Python, TypeScript/JavaScript, C/C++, MATLAB, version control (Git/GitHub), REST APIs, Object Oriented Programming (OOP), multimedia editing.

**Unity Engine:** Unity3D, XR Interaction Toolkit, UI Toolkit, client-server communication, debugging, documentation.