

Ethan Soo

EDUCATION

University of Southern California

B.S. in Computer Science (Games)

Jan. 2022 – May 2024

Los Angeles, CA

San Jose State University

Computer Science Coursework

Aug. 2019 – Dec 2021

San Jose, CA

POSITIONS

Co-Founder, Technical Director

Aug. 2023 – Present

techToy Studio

- Led the end-to-end development of **Symphoni** (2023-2025), launched on the Meta Store and flagged as a **top-rated app**.
- Secured recognition from Meta for **Symphoni** as a **flagship-quality title**, showcased at Meta's GDC developer reel, and expanded industry visibility with features at **GDC, AWE, and SXSW**.
- Designed and built **Symphoni Composer**, a scalable UGC engine enabling players to create and share custom maps, boosting retention and extending product lifecycle.
- Engineered **Get Clowned** (2025), a Horizon Worlds project in partnership with Meta, leveraging Meta's Horizon Worlds editor to implement advanced gameplay mechanics and optimize player experience.

AR Gameplay Software Engineer

July 2023 - December 2023

Genies

- Led the end-to-end development and launch of a geolocated AR experience in Unity, integrating GPS mapping and real-world interactions.
- Collaborated closely with cross-functional teams to align game mechanics with user experience, ensuring seamless integration of advanced AR features.
- Conducted extensive testing and iterations based on user feedback to refine gameplay and user interface for optimal performance across diverse mobile devices.

Research Software Engineer

August 2023 – May 2024

USC Keck School of Medicine

- Collaborated with a leading research lab on cutting-edge VR car driving simulations, specializing in eye tracking integration for automotive research.
- Developed software on top of the CARLA simulator, leveraging Unreal Engine's development workflow and C++/Python APIs to simulate intricate real-world driving scenarios.
- Integrated a variety of core features like blind spot detection, real-time driving performance metrics, and AI-driven simulations.

Software Engineer

May 2022 – August 2022

Mercedes Benz, Kia

- Developed an immersive AR/VR car driving simulation and car showroom using Unreal Engine and C++ for Mercedes Benz and Kia.
- My contributions encompassed AR/VR development and GPU optimization, ensuring a seamless integration of virtual and augmented reality technologies with traditional automotive engineering.

MAJOR CONTRACTS

Long-Term Contract (Full-Stack Software Engineer)

March 2021 – December 2023

Santa Fe VIP Tours

- Lead full-stack developer for a cross-platform mobile app (iOS & Android) through Unity, facilitating hundreds of guided AR tours to enhance tourist experiences.
- Effectively managed client communication and project production, ensuring consistent delivery of high-quality updates and features within agreed deadlines.
- Designed and implemented a robust client-server architecture, enabling efficient data transfer (including images, audio, text, and GPS data) between the mobile app and the Ruby-based web server.
- Integrated interactive UI/UX designs and geolocation features, significantly improving user engagement and satisfaction with the AR tour experience.

Contract Software Engineer & Project Manager

June 2019 – Jan. 2022

AR Tennis

- Directed a specialized team of AR Unity developers in the rapid prototyping and development of a cutting-edge tennis coaching application for the Hololens.
- Engineered a novel virtual target training system for the US national team, integrating Unity development with Hololens, Magic Leap, and NReal, enhancing training with real-time networking and livestreaming features.

Unlisted Contracts

March 2019 – Jan. 2024

Arc

- Contributed to over 50 AR/VR projects primarily in C++ and C#, providing expert mentorship and technical guidance to clients, many of which led to the successful delivery of applications across various industries.
- Played a pivotal role as a business consultant, delivering key insights and actionable strategies for the exploration, development, and market introduction of AR/VR technologies.
- Fostered strong client relationships through effective communication, understanding unique project requirements, and delivering tailored solutions that align with business objectives and technological trends.

KEY PROJECTS

Hand-Tracking Research | *Machine Learning, Interaction*

August 2023 - December 2023

- Developed and validated a Convolutional Neural Network (CNN) model for hand gesture detection using Pytorch, attaining a F1 score of 97.47%.
- Independently designed and prototyped a hand tracking keyboard solution using just computer vision to track hand gestures.

Neon City | *Unity, VR Interaction, Sandbox, Game Design*

June 2022 - May 2023

- Led a team of engineers in the development of **Neon City** in a total team of 30, ensuring seamless integration and functionality of player interactions within the game environment.
- Architected and implemented a custom input management framework wrapped on top of Meta Interaction and Movement SDKs.
- Coordinated the design and implementation of innovative features like face tracking, AR passthrough, and user-friendly UI interactions, significantly enhancing player immersion and experience.
- Recognized as the top contributor in the project, exceeding efficiency benchmarks by 192%, and played a crucial role in the weekly delivery of robust gameplay features.

Licon | *React, ThreeJS, Figma*

June 2022 – March 2023

- Developed comprehensive mobile and web applications, utilizing Figma for user-centric interface designs, Unity for robust iOS and Android app functionalities with advanced computer vision, image processing and 3D modeling, and ThreeJS/ReactJS for high-performance web application development focusing on 3D rendering and interactive user experiences.
- Worked alongside 10 NeRF machine learning researchers to innovate in the field of 3D model reconstruction by designing a proprietary algorithm to dynamically extract point clouds from live video, significantly enhancing the fidelity and accuracy of 3D models.

The Course | *Mobile AR, Hardware, Prototyping*

April 2019 – April 2023

- Independent developer of **The Course**, a mobile fitness tracker startup, leading its strategic vision and overseeing development of over 30 Unity-based AR prototypes for platforms like Bose AR and Vuzix Blade, emphasizing hardware versatility and user-centric design.

Real Life Strategy | *iOS, System Design, Real-Time Networking, GPS*

April 2018 - December 2019

- Engineered a robust multiplayer gaming platform using TCP/UDP networking protocols, ensuring smooth and real-time gameplay experiences for users on iOS devices.

VR Badminton Academy | *Unity, VR Interaction, Physics, Sports Training*

June 2018 - August 2018

- Developed VR sports simulation that trains players to play badminton, demonstrating how VR technology can transform traditional sports training practices.
- Earned acclaim from professional badminton coaches and athletes, confirming the simulation's efficacy in enhancing real-life badminton skills and strategies.

TECHNICAL SKILLS

Languages: Java, Python, C#, C, C++, JavaScript, Swift, Solidity, Scala, Rust, HTML/CSS, SQL, x86, LEGV8

Frameworks: XRI, OpenXR, MRTK, Oculus, ARFoundation, ARCore, ARKit, ThreeJS, JavaFX, React, Svelte

Developer Tools: Unity, Unreal, VSCode, IntelliJ, Rider, XCode, Android Studio, Postman, Blender, Maya, Git, Figma

Libraries: AWS Amplify, DynamoDB, OpenCV, Pytorch, Pandas, NumPy, Unity Netcode, Photon, CARLA, Maps