

Samir Ghosh

VIRTUAL REALITY RESEARCHER AND DEVELOPER

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Education

University of California, Santa Cruz

Santa Cruz, California

PhD in Computational Media (in progress, expected graduation 2027)

2022 - Current

- **Advisor:** Katherine Isbister
- Research topics: Human Computer Interaction (HCI), Proxemics, Collaborative Sensemaking, Data Visualization, Embodied Interaction

University of Southern California

Los Angeles, California

BS Computational Linguistics + BS Cognitive Science

Class of 2018

- Independent project to chart phonological data in virtual reality under Prof. Sandra Disner
- **Courses:** Artificial Intelligence, Cognitive Neuroscience, Advanced Logic, Information Visualization, Neurogastronomy, Psycholinguistics

Experience

SET Lab and Coastal Climate Resilience Center, UC Santa Cruz

Santa Cruz, California

Graduate Student Researcher

Jun 2023 - Present

- Researches multi-user VR interfaces for scientific applications in civil engineering, marine science, and other technical domains.
- Collaboration with Soga Research Group at UC Berkeley and Coastal Climate Resilience Center at UC Santa Cruz for collaborative scientific XR prototypes
- Support for research from the Sloan Foundation.

Ahmanson Lab, USC Harman Academy

Los Angeles, California

Assistant Director

Jan 2019 - Aug 2022

- Produced VR, AR, and installation experiences, collaborating across institutions (i.e., The Vatican, California Science Center, Library of Congress).
- Created and taught hands-on workshop series spanning AI, VR/AR development, computer graphics, robotics, 3D printing, and civic issues.
- Maintained fabrication resources for faculty/students, including 3D printing and microcontroller resources (weekly usage 100 to 250 people).

YUR Inc.

Los Angeles, California

VR Developer

Jul 2021 - Dec 2021

- Specified and implemented network architecture for Unreal Engine VR app with social networking, health metrics, and account APIs.
- Created efficient GPU-based instanced materials for gameplay mechanics and ambient environment elements.
- Migrated assets, netcode, and machine learning models from Unity plugin to Unreal with XR integration and cybersecurity considerations.

Intel Corporation

Santa Clara, California

DevOps Engineering Intern

Summer 2016, Summer 2018

- Implemented a real-time cybersecurity threat responder and visualization using OSSEC, Wazuh, and Elasticsearch (200k+ servers per instance).
- Extended a hardware-agnostic firmware service tool from CLI to a web interface using Node.js and full-stack development practices.
- Created real-time visualizations of server availability and update status during scheduled server farm downtime using Kibana and Python.

Selected Projects

Coral Reefs, XR, and AI

Ongoing project to display coral reef photogrammetry integrated with spatial AI tools in XR for restoration and awareness efforts. Uses cutting-edge gaussian splat approaches with LLM integration and embodied interface design.

AI War Cloud

Ars Electronica 2025 piece by Sarah Ciston that illustrates complex relations of AI technology across industry and government. Developed XR views using a bespoke rendering technique. Winner of the S+T+ARTS Grand Prize of the European Commission. Presentation at SIGGRAPH '26 Spatial Storytelling.

Booksnake AR

NEH funded iOS AR app displaying assets from the Library of Congress and other archival information. Early design, software architecture, and project management contributions.

Bunker Hill VR

Historical recreation of 1930s downtown Los Angeles using civil engineering data. Project management, documentation, and technical contributions.

Skills

Development, Programming

JavaScript (WebXR + Three.js), GLSL, Python, C# (Unity), C++ (Unreal Engine)

Design Methods

VR Mockups, Interface Prototyping, User Research, Co-Design, Research-through-Design Qualitative and Quantitative Methods