Samir Ghosh

✉ mail@samir.tech 🌐 www.samir.tech

Researcher specializing multi-user VR design for scientific applications

Education

PhD Computational Media University of California, Santa Cruz **(in progress)**
Advisor: Dr. Katherine Isbister of the Social and Emotional Technology Lab

BS Computational Linguistics University of Southern California   **2018**

BA Cognitive Science University of Southern California

Experience

Assistant Director of the Ahmanson Lab, USC Harman Academy   **Jan 2019 - Aug 2022**
The Ahmanson Lab provides produces interdisciplinary VR/AR projects, makerspace resources, and workshops
- Produced various VR, AR, and installation experiences, collaborating across institutions and scholarly disciplines

Booksnake AR (link) - NEH funded AR app displaying assets from the Library of Congress and other archival information
Bunker Hill VR (link) - Historical recreation of 1930s downtown Los Angeles using civil engineering data
Stanza Del Segnatura (link) - WebGL 3D app that overlays primary sources over frescoes from The Vatican

- Created and taught hands-on workshop series spanning deep learning, VR and AR development, computer graphics, robotics, 3D printing, and issues in privacy rights and AI
- Maintained fabrication resources for students and professors including 3D printing, and microcontroller resources (weekly usage 100 to 250 people)

VR Developer, YUR Inc.   **Jul 2021 - Dec 2021**
YUR Inc. is a VR fitness startup that makes a variety of products for exercise and wellness gamification
- Specified and implemented network architecture to connect a Unreal Engine based VR app telemetry to social networking, health metrics, and game account APIs
- Created efficient GPU based instanced materials for gameplay mechanics and ambient environment elements
- Migrated assets, networking code, and machine learning models from a Unity plugin to Unreal and worked with an engineering team for XR integration and cybersecurity considerations

DevOps Engineering Intern, Intel Corporation   **Summer '16, Summer '18, Fall '18**
My division leveraged massive server farms and supercomputers for in-house computing
- Implemented a scalable, real-time cybersecurity threat responder and visualization system using OSSEC, Wazuh and Elasticsearch (200k+ server machines monitored per instance)
- Extended a hardware agnostic firmware service tool from CLI to a web interface using Node.js, various front-end frameworks, and full stack development practices
- Created real-time visualizations of server availability and update status during scheduled server farm downtime using Kibana and Python scripting

Software Assistant for Behnaz Farahi   **Aug 2016 - Dec 2017**
Behnaz Farahi produces internationally acclaimed fashion pieces, integrating cutting edge wearable technology
- Created efficient microcontroller software to integrate various sensor data with lights, pneumatics, and motor driven systems concealed in 3D-printed dresses — exhibited at venues such as SIGGRAPH and Ars Electronica

Bodyscape (link) - Gait driven and generative light patterning algorithms, remote operation, hardware engineering

- Repaired electronics and modified code under time pressure at exhibitions, runway shows, and film shoots

Research Assistant, USC Brain and Creativity Institute   **Mar 2015 - Aug 2015**
The USC Brain and Creativity Institute explores a variety of topics through Neuroscience
- Filtered and cleaned EEG data for neuroscience approaches to states of consciousness and perception studies
- Attended seminars combining neuroscience with law, religion, meditation, and cognitive modeling

QA Intern, Enlighted Inc.   **Summer '14**
Enlighted makes intelligent light systems for commercial buildings
- Designed and Built test rigs for infrared sensors to verify output voltages
- Implemented tools and processes to fix mass quantities of faulty units

Notable Projects

Google Summer of Code '22 (link) - Open source contributions for the Processing Foundation, p5.js to WebXR

Generative Art Pieces (link) - Creative code samples using shader and generative techniques