Liuhao Wu

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EDUCATION

University of Chicago (UChicago) Sep 2021 — Jun 2023
- B.S. in Computer Science; **GPA: 3.788** *Chicago, IL*
- *Courses*: Operating Systems, Computer Architecture, Networks, Complexity Theory, Robotics, Human Computer Interaction

University of California, Santa Barbara (UCSB) Aug 2019 — Aug 2021
- Computer Science with Honors (transferred out); **GPA: 4.000** *Santa Barbara, CA*

EXPERIENCE

Marine Biological Laboratory Aug 2022 — Sep 2022
Undergraduate Researcher (Supervised by Dr. David Mark Welch and Dr. Elena Peredo) *Woods Hole, MA*
- Conducted research on microbiome recovery of spurdogs and chain catsharks during the skin regeneration process
- Analyzed DNA sequencing datasets using Qiime2 to populate volcano plots, taxonomy charts, and alpha and beta diversity

CANON Lab Apr 2022 — Aug 2022
Undergraduate Researcher (Supervised by Prof. Diana Franklin) *Chicago, IL*
- Designed and developed educational tech tools, including QueueBits on Unity, a game introducing quantum computing concepts
- Developed the frontend of Entwine, an educational website transforming paper worksheets to the Scratch programming platform, with features including roster management, class module creation, and project progress check
- Collaborated with educators to test and iterate on QueueBits and Entwine, collecting and analyzing feedback from over 50 Chicago Public School students

Human-Robot Interaction (HRI) Lab Apr 2022 — Jul 2022
Undergraduate Researcher (Supervised by Prof. Sarah Sebo) *Chicago, IL*
- Conducted 12 research experiments and analyzed 45 video recordings to analyze the effectiveness of humanoid robot NAO, monitor screen, and poster in facilitating interpersonal communications
- Supported data analysis from participants' survey responses to extract insights, enhancing robot-human interaction strategies

Gevirtz Graduate School of Education Jan 2021 — Sep 2021
Undergraduate Researcher (Supervised by Prof. Diana Arya) *Santa Barbara, CA*
- Collaborated on a Virtual Reality-based game design and testing for immersive remedial literacy education under the initiative of Community Based Literacies (CBL) project and McEnroe Reading and Language Arts Clinic
- Designed a radial menu detecting controller inputs with Unity and art asset development with Blender

UCSB Religious Studies and Psychological & Brain Sciences Jun 2021 — Aug 2021
Undergraduate Researcher (Supervised by Prof. Ann Taves and Dr. Elliott Ihm) *Santa Barbara, CA*
- Analyzed 1000+ surveys with R for the Inventory of Non-Ordinary Experiences project
- Led interviews and literacy reviews on medication practices, focusing on religious / spiritual traditions influences

PROJECTS

Bouncing Ball Tracking Aug 2023 — Aug 2023
- Created a real-time server-client video communication system using WebRTC for efficient data transmission

Restogram July 2023 — Aug 2023
- Implemented a mock Instagram app for restaurants that supports dynamic post and profile systems using Firebase and SwiftUI

Pintos Mar 2023 — June 2023
- Programmed an operating system framework supporting kernel threads, user programs, virtual memory, and file system

Network Protocols Oct 2022 — Dec 2022
- Coded an Internet Relay Chat (IRC) server, Transmission Control Protocol (TCP), and multi-network IP routing with sockets

Turtlebot Waffle Mar 2022 — Jun 2022
- Integrated and implemented arm and sensory-motor control to perform tasks including person following and object sorting
- Incorporated reinforcement Q-learning algorithm, particle filter localization, inversed kinematics, and OpenCV ARTag

UCSB Food Bank Mar 2021 — Jun 2021
- Led the development of a website providing UCSB students information about item availability at the Food Bank

UCSB Course Search Mar 2021 — Jun 2021
- Implemented course search and registration features and repaired backend controllers in the legacy codebase

SKILLS

Programming: C/C++, SwiftUI, Python, C#, Java, JavaScript, HTML, CSS, R

Toolbox: Git, Azure, Firebase, React, CI/CD, TCP, OpenCV, UNIX, LaTeX, Unity, Blender, Arduino, Qiime2, Jupyter, Docker