HALEY INZUNZA

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OBJECTIVE

Passionate software engineer eager to apply expertise in C++, Artificial Intelligence, and Computer Vision to drive innovation in projects. Dedicated to thriving in an agile, collaborative environment while fostering creative solutions.

EDUCATION

University of California, Irvine | Irvine, CA December 2023
BS - Computer Science, Specialization in Intelligent Systems | GPA: 3.617
Video Game Design Club | Women in Computer Science | Associated Students of UC Irvine

WORK EXPERIENCE

Visualization Intern – Multimedia & Game Programming El Segundo, CA
Science Applications International Corporation (SAIC) June 2023 – August 2023
- Created a U.S Space Force sponsored multiplayer war-game simulation to demonstrate military actions and responses.
- Integrated MATLAB algorithms for simulating the maneuvering of space assets into an interactive game environment.
- Developed a system for players to choose assets and actions to conduct operations during the scenario in both single player and multiplayer modes.

Head Undergraduate Teaching Assistant – I&CS 46 Data Structures & Algorithms Irvine, CA
University of California, Irvine – Donald Bren School of Computer Science January 2022 – Current
- Taught algorithm analysis, data structures, and sorting algorithms in a classroom setting.
- Led a team of 25+ undergraduate teaching assistants by hosting weekly staff meetings and assigning roles for course activities.
- Communicated weekly with the professor to update lesson plans, exam questions, and highlight student feedback.

Undergraduate Teaching Assistant & Grader – CS 161 Design & Analysis of Algorithms Irvine, CA
University of California, Irvine – Donald Bren School of Computer Science January 2023 - Current
- Taught algorithm analysis, divide-and-conquer, dynamic programming, and greedy algorithms in a classroom setting.
- Graded and provided feedback on assignments and exams in a class of 250+ students.
- Organized office hours sessions to help students prepare for exams and meet academic objectives.

PROJECTS

Minesweeper AI | *C++*
- Created an artificial intelligence program that solves the classic one-player game *Minesweeper* on 5x5, 8x8, 16x16, and 16x30 boards with 1-99 bombs using constraint satisfaction problems and probability.
- Discovered approximately 77% of maps tested were solved accurately.

3D Mesh Reconstructor | *Python, NumPy, Matplotlib, Jupyter Notebook*
- Designed a program that produces 3D mesh reconstructions of objects from collections of structured light scans.
- Based algorithm on concepts of camera calibration, 3D transformations, triangulation, and mesh generation.

Object Detector | *Python, NumPy, Matplotlib, Jupyter Notebook*
- Designed a program to detect objects and faces in images based on gradient features and sliding window classification.
- Discovered 70% accuracy in identifying the correct object or face within the image.

Minecraft Parkour AI | *Malmo API, Python*
- Created an artificial intelligence program that creates an optimal path for a computer player unit to traverse obstacle courses of varying difficulty in the game *Minecraft* using reinforcement learning.
- Discovered that 100% of courses tested were solved accurately, with the program taking approximately 75 iterations to solve easy and 210 iterations to solve hard.

PROFICIENCIES

Coding Languages: C++, Python, C, C#, MIPS Assembly Language
Technologies: Git, Visual Studio, Unreal Engine, Unity Engine, Jupyter Notebook, NumPy, Matplotlib, MATLAB
Interests: Drawing/Painting, Collecting Comic Books, Playing & Developing Video Games, Film Photography, Snowboarding