



CHRISTIAN GONZALEZ

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EDUCATION

University of California, San Diego

Expected: December 2023

B.S. Computer Science, Minor in Mathematics

Overall GPA: 3.45

Relevant Coursework: Data Structures, Algorithms, Object-Oriented Design, Software Engineering, Data Science, Graph Theory, Statistics, AI, Machine Learning, Computer Architecture

EXPERIENCE

Santa Monica College

Santa Monica, CA

Math & CS Tutor

Aug 2019 - Aug 2020

- I tutored Calculus I & II, Multivariable Calculus, intro to C, object-oriented programming, and data structures. I helped students grasp concepts they were having trouble understanding and also assisted them with their homework. I also successfully analyzed and debugged code (C, C++, and Java) written by different individuals and provided feedback.

PROJECTS

Portfolio (www.ckgon.dev)

Website application

- A personal portfolio website, developed using React JS, that shows the projects that I've worked on and some other details about me. The purpose behind building this website was not only to show my projects but to also learn React.

2048 (https://chriskevns.github.io/2048_website/)

Website application

- I implemented an AI algorithm to win the 2048 game by achieving an average score of 2048 or greater. The AI algorithm I implemented is the expectimax search algorithm. This algorithm utilizes a heuristic as its evaluation function. The heuristic I used simply applies weights to each tile in the game to enable the AI to use the snake strategy to win the game. I developed this project using JavaScript, HTML, and CSS.

Gridworld

AI algorithm

- I implemented an AI algorithm, using python, to visualize how an agent would traverse the gridworld based on the search algorithm used. Some of the grid cells are obstacles and some aren't. Moreover, each grid cell that isn't an obstacle has a weight associated to them. The search algorithms I used are DFS, BFS, Dijkstra's, and A*. The heuristic used for A* is Manhattan distance.

Blackjack

AI algorithm

- In order to get a better understanding of how the reinforcement learning algorithms taught in my AI class works, I implemented an AI algorithm that learns how to play and win Blackjack using these algorithms. The reinforcement algorithms I used in the AI program are Monte Carlo, Temporal-difference, and Q-learning. The AI program's winning rate is around 41% when using Q-learning.

SKILLS

Languages

JavaScript, Python, Java, C++, C, HTML, CSS

Tools/Frameworks

React, NodeJS, ExpressJS, Pandas, Numpy, Jupyter Notebook, Git, JUnit, VS Code