RANDY KIM

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EDUCATION

University of California, San Diego, *La Jolla, CA* ***Graduated June 2020***

- **Major:** B.S. in Computer Science
- **Coursework:** Advanced Data Structures, Design and Analysis of Algorithms, Theory of Computability, Modern Cryptography, Software Engineering, Advanced SWE, Computer Networks, Programming Languages, Computer Architecture, Artificial Intelligence, Machine Learning, Computer Vision, Computer Graphics, Data Science in Practice

PROJECTS

Video Game : Runnavania, *October 2020* ***C#, Unity***

- Created an auto-runner game from scratch within 72 hours for the Ludum Dare 47 game jam.
- Programmed player movement and mapped user inputs to allow the players to maneuver around obstacles and complete the game.
- Implemented power-ups that add onto and alter the player's movement capabilities such as double jumping and speed boosting.
- Designed a camera controller that automatically follows the player based on their coordinates.

Video Game : Wheel Time Crisis, *July 2020* ***C#, Unity***

- Built a rail shooter using the Unity engine within 2 days for the GMTK 2020 Game Jam.
- Utilized a Bézier Path Creator to move the player entity like an arcade rail shooter.
- Coupled particle effects with ray casted shooting mechanics to add muzzle flare and impact effects.

Chrome Extension : Clubhouse Dungeons, *March 2020-June 2020* ***JavaScript, HTML/CSS***

- Made a chrome extension aiming to tackle the problem of staying productive in a post-COVID-19 world.
- Combined early bits of code written by multiple members of the team which included a JS/HTML button functionality and code that retrieves information from the Clubhouse API.
- Implemented the login functionality which uses a user-generated Clubhouse API key to retrieve a promise from Clubhouse containing the user's information.
- Implemented an honor system by utilizing the Firebase API to store data of all the people in the organization that honored each user into the project's Firebase database.

Data Science : City Health Research Project, *January 2020-March 2020* ***Python, Jupyter Notebook, pandas***

- A research project done with big data pertaining to population health from CDC and Census.
- Utilized the pandas library to discover that the average life expectancy of people living in larger populations can be higher than smaller populations by as much as 2.67 years.
- Found that frequent physical distress, frequent mental distress, and adult smoking has a high correlation with poor self-reported health by using the dataframe's corr() method.

Artificial Intelligence: 2048, *January 2019-February 2019* ***Python***

- Programmed an explicit construction of a game tree with depth 3 where at each depth there is node containing a linked list of nodes that contain data on a specific game state.
- Implemented a recursive expectimax pruning algorithm that gives us the maximum value that can be achieved from the game state at any given node.
- Implemented a method that computes a decision for the AI to make using the expectimax algorithm in order to guarantee a 2048 score of over 5000.

COMPUTER SKILLS

Languages: *(proficient)*: C/C++, Python *(familiar)*: C#, JavaScript, HTML/CSS
Software Tools: gdb, Git/GitHub Desktop, Jupyter Notebook