ESTEBAN CHARRY

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EDUCATION

University of California, Berkeley **Fall 2020 - Fall 2023**
Bachelor of Arts in Data Science

Relevant Coursework

- **Computer Science:** Structure and Interpretation of Computer Programs, Data Structures, Efficient Algorithms and Intractable Problems, Discrete Mathematics and Probability Theory, Designing Information Systems and Devices I, II
- **Mathematics:** Multivariable Calculus, Statistics, Probability and Random Processes

TECHNICAL SKILLS

Natural Languages: English, Spanish (Native/Bilingual Proficiency)
Computing, Tools: Python (Advanced), Java (Proficient), SQL, Pandas, NumPy, Machine Learning

PROJECTS

2048 - Java **January 2021**

Core logic of the game 2048, a single-player computer game written by Gabriele Cirulli, including the handling of a variety of possible key-presses input by the player and their effects on aspects of the game such as its score, board layout and tile values. Exercise in Model-View-Controller and the Observer design patterns.

Gitlet - Java **March 2021**

Command line version control system implementing essential features of Git. Handles the saving the contents of entire directories of files, restoring a version of one or more files or entire commits, viewing their histories, maintaining related sequences of commits, and merging of changes made in one branch to another. Treats a series of commits as a linked-list, maintaining a "head" pointer reflecting the most current state of files.

2D Tile-based World Exploration Engine - Java **April 2021**

From ideation to presentation, collaborated with another student to develop an engine for generating random, expansive worlds in which the user is able to explore and interact. Worlds are generated using randomly positioned rooms and the connecting paths between them are made with A* search using Manhattan distance as a heuristic. Established product development cycle with testing.

AI Pac-Man - Python **January 2023**

Pac-Man projects which involve implementing various AI methods to play Pac-Man. The main goal of these projects was to impart essential AI principles like informed state-space search, probabilistic inference, and reinforcement learning, as well as to consolidate programming skills in implementing them. Programmed for DFS, BFS, A* for Pac-Man, the propositional logic describing game states and satisfiability, minimax and expectimax search, algorithms for Bayesian inference.

DISTINCTIONS

Microsoft Technology Associate, Solar Cup 2020 Eco-Boating Competition, Questbridge National College Match Finalist, Great Minds in STEM 2020 Scholar, 2020 Chevron Scholarship Recipient