

ESTEBAN CHARRY

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EDUCATION

University of California, Berkeley
Bachelor of Arts in Data Science

Fall 2020 - Fall 2023

RELEVANT COURSEWORK

Structure and Interpretation of Computer Programs, Data Structures, Efficient Algorithms and Intractable Problems, Discrete Mathematics and Probability Theory, Designing Information Devices & Systems, Multivariable Calculus, Statistics, Probability and Random Processes

WORK EXPERIENCE

Instructor — ImmersivEducation

June 2019

I led a summer session of 40 students through the fundamentals of game development and programming, from basic design principles to the application of complex algorithms in creating efficient and dynamic gameplay elements.

PROJECTS

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 World Engine — Java

April 2021

Collaborated with another student to develop an engine for generating random, expansive worlds in which one 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 rectilinear distance as a heuristic. Established product development cycle with testing.

Pocket Planets — Python

October 2022

Interactive Particle System implementation that models living agents and their evolution through rates of mutation and their environment, with agents reproducing at each time step and competing with one another. Worlds are generated using Perlin noise to simulate varying terrains and elevation ranges. Uses probabilistic algorithms for agent behavior and genetic variation, resulting in rich ecosystems.

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.

TECHNICAL SKILLS

Natural Languages: English, Spanish (Native/Bilingual Proficiency), Korean (Elem. Proficiency)

Computing, Tools: Python (Advanced), Java (Proficient), HTML/CSS, SQL, Pandas, NumPy, Machine Learning

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