ESTEBAN CHARRY

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EDUCATION

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

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, Principles and Techniques of Data Science, Introduction to Artificial Intelligence, Introduction to Machine Learning

WORK EXPERIENCE

Instructor — ImmersivEducation **June 2019**

- Led a session of 40 students through the fundamentals of game development and programming.
- Taught basic design principles to algorithms in creating efficient and dynamic gameplay elements.
- Implemented designs through C# in Unity engine.
- Drafted course plans and collaborated with a team of instructors to designate topic areas.

PROJECTS

Machine Learning Models – Python **April 2021**
Perceptron algorithm to approximate sinusoidal functions. Utilized neural networks for image recognition tasks, like recognizing handwritten digits. CNNs for CIFAR-10 ($> 82\%$ validation accuracy), MLP for fashion MNIST ($> 82\%$). Applied models to natural language processing, successfully classifying different languages with accuracies greater than 81%.

Voice Controlled Car – Arduino **March 2022**
A voice-activated car using a Texas Instruments microcontroller and microphone to record and filter commands. The car identifies commands using singular value decomposition and principal component analysis.

Pocket Planets – Python **October 2022**
Particle System simulating evolving agents in diverse ecosystems, with terrains generated using Perlin noise and agent behavior driven by probabilistic algorithms.

AI Pac-Man – Python **January 2023**
Pac-Man project using AI techniques like informed state-space search, probabilistic inference, and reinforcement learning, including DFS, BFS, A*, propositional logic, minimax and expectimax search, and Bayesian inference algorithms, Bellman updates.

SKILLS

Languages: English, Spanish (Native/Bilingual), Korean (Elementary)
Computing, Tools: Python (Advanced), Java (Proficient), SQL, HTML5 & CSS, PyTorch, Pandas, NumPy, Machine Learning

CERTIFICATIONS AND AWARDS

- Microsoft Technology Associate
- Solar Cup 2020 Eco-Boating Competition
- Great Minds in STEM 2020 Scholar
- 2020 Chevron Scholarship Recipient