

Ricardo Villacana

Los Angeles, CA | [Github Portfolio](#) | [LinkedIn](#) | ricardovill77@gmail.com | 818-421-6241

EDUCATION

University of California, Riverside

Riverside, CA

BS in Computer Science

Graduation Date: June 2023

- Organizations/Awards: Honors Program, Dean's Honors List, Cryptopedia(Club)

PROJECT EXPERIENCE

A.I. Shipping Container Software

January 2023 - March 2023

[Github](#) | [Demo](#)

- Developed a high-performance and optimal algorithm in Python for loading and unloading containers on a cargo ship, optimizing for operation time and maintaining a set weight distribution.
- Successfully implemented a constraint of a maximum 10% imbalance for optimal center of gravity and ship stability, reducing the risk of operational hazards and enhancing the safety of the vessel.
- Implemented a detailed logging system to record operations and user issues, enhancing traceability.
- Collaborated with a frontend team to integrate backend functionalities, writing well-designed, testable, and efficient code in compliance with specs, ensuring seamless data flow and performance.

NFT Blockchain Marketplace

December 2022 - July 2023

[Github](#) | [Demo](#)

- Engineered a decentralized NFT marketplace on the Ethereum Sepolia Testnet, leveraging Solidity for the development of secure smart contracts, allowing users to buy and sell unique digital assets.
- Utilized Apollo Client in conjunction with TheGraph for efficient state management, enabling real-time querying and indexing of blockchain data, thereby ensuring a responsive user experience.
- Implemented a dynamic and user-friendly interface using a tech stack of Next.js, web3uikit, and React Moralis, providing users with an intuitive environment for NFT transactions.

Reddit Search Engine

March 2023 - June 2023

[Github](#) | [Demo](#)

- Executed Python's PRAW library to interface with Reddit's API, facilitating efficient extraction and organization of data from subreddits, mitigating API rate limitations and extensive data magnitudes.
- Engineered a search system employing PyLucene, leveraging the BM25 ranking algorithm to parse user queries and rank results, optimizing information retrieval accuracy and efficiency.
- Constructed and deployed an intuitive Flask-based web interface, presenting curated top 10 relevant posts, leveraging advanced query parsing and data indexing techniques in response to user inquiries.

RELEVANT EXPERIENCE

Impact Theory Studios

Los Angeles, CA

Blockchain Community Moderator(Volunteer)

August 2022 - May 2023

- Volunteered 12-15 hours per week moderating Impact Theory Studios' 85,000+ member Discord server, a pioneering web3 company focused on building an NFT enabled game, Project Kyzen.
- Played a key role in the successful launch of the avatar creation portal for Project Kyzen, supporting users with technical issues and facilitating the effective utilization of airdropped NFTs.
- Leveraged technical expertise to solve blockchain-related challenges, effectively mitigating user concerns, bolstering community satisfaction, and driving notable upsurge in engagement.

LANGUAGES, SKILLS, & OTHER PROJECTS

Languages: C/C++, Java, Python, JavaScript, SQL, Scala, CUDA, Arduino, Solidity

Skills: Data Structures & Algorithms, Relational Database Management, Full-Stack, GPU Programming, SparkSQL, Unix/Linux, Unit Test Development, Github/Git, ReactJs, NextJs, EthersJs, Agile/Scrum

Projects: Multi-Threading Gravitational Calculator, Cafe Ordering Application, A.I. 8-Puzzle Solver, A.I. Feature Selection, Crypto Raffle Application, Crypto Stablecoin, Embedded LED Running Simulator