Alejandro Ortiz

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EDUCATION

Princeton University | Princeton, NJ Graduation May 2024

A.B - Computer Science, Certificate in Statistics and Machine Learning

Coursework: Algorithms and Data Strucutures, Programming Systems, Computer System Design, Advanced Programming Techniques, Data Science, Discrete Math, Linear Algebra, Blockchains, Decentralized Finance

EXPERIENCE

Software Engineer Intern | S&P Global Ratings June 2023 - Aug 2023

- Automated manual workflows in the rating and monitoring process, eliminating repeated data work done by ratings analysts.
- Wrote components to standardize data inputs from several different file formats into dataframes to simplify data analysis and comparison through pandas.
- Reduced testing time for new features for automating testing processes, lowering the time to onboard new jurisdictions by 30%.

Undergraduate Course Assistant | Princeton Dept. of Computer Science Jan 2022 - Present

- Work as a teaching assistant for introductory computer science classes and Algorithms and Data Structures.
- Evaluate and grade coding assignment submissions, providing specific and constructive feedback.
- Host weekly office hours for conceptual topics and homework help sessions for assignments.

PROJECTS

Logion Website | jQuery, Flask, PostgreSQL, Heroku, Google Cloud Platform

- Built a three-tier webapp to provide a clean and intuitive GUI for users to interact with an NLP model trained on Ancient Greek text. Built in collaboration with the Princeton Classics Department's LOGION project.
- Designed and implemented the site's entire frontend interface. Built a texteditor that allows users to intuitively query the model and specify advanced prediction parameters.
- Wrote the backend logic to implement user accounts, save user-associated projects, and save project-associated predictions. Deployed the server and database on Heroku.

WeightCalc | React, Dexie.js, Nextjs, Tailwind CSS

- Built a webapp with Nextjs to take a user-defined set of weights and weight target, calculate the optimal loading of a barbell, and visualize the results in 3D using React-Three libraries. Deployed on Github pages.
- Designed an algorithm that modifies the solution to the Coin Change problem by optimizing for a balanced weight distribution across a barbell and favoring the use of heavier weight plates over lighter ones.
- Leveraged local-storage APIs, managed through Dexie.js, to keep the entire app client-side while allowing users to save information across browser sessions without the need for user accounts.

BarLoad | React, React-Three

- Built as a precursor to WeightCalc. Provides a calculator-like UI for finding the sum of weight plates.
- Used 3D graphics libraries to provide a 3D visualization of weight sum. Deployed on Github pages.

SKILLS & TECHNICAL TOOLS

Languages: Python, JavaScript, Solidity, C, Go, Java, HTML/CSS, R, SQL

Technologies: React, Nextjs, jQuery, Git, RStudio, Flask, Heroku, Bootstrap, Tailwind, GCP, Databricks