Jeff Varela

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Experience

Junior Software Developer (remote) Dec 2020 – Sept 2021

City University of New York Building Performance Lab

- Developed custom client-side algorithms and UI interface to query backend database for generating custom energy reports, representing New York City facilities, using React/Redux life cycle
- Prototyped and expanded UI design-related concerns regarding application performance by constructing paginators along with utilizing React-Routers causing an enhancement on web functionality and user experience
- Collaborated with engineers to implement data pipelines that supports data acquisition using python and 3rd party dependencies, resulting in an improvement for data science project to perform linear regression models
- Built CLI using python to pull and aggregate data into CSV and JSON format to perform weather pattern analysis that helped identify opportunities to improve building energy performance by 10%
- Reviewed and improved multiple projects that consumed data from ftp servers and REST APIs by building algorithms that stabilized ftp request and reduced bottleneck performance of API endpoints

Technical Projects

Physics_JS – Gravity Simulation ***(JavaScript, p5.js, HTML, CSS)*** live | GitHub

An interactive physics simulator for visualizing the physical phenomenon of gravity

- Implemented vector field properties using JavaScript and p5.js which resulted in realistic model visualization of gravitational forces between a network of particles
- Employed UI design to allow user to set properties of particles such as mass and number of particles

NOAA Data Acquisition ***(Python, Pydantic, Request, Click, Pytest)*** GitHub

A CLI parser that connects to NOAA's ftp network to turn encrypted data into useable data for data science app

- Developed algorithm that collects encrypted data and parse it into useable CSV and JSON files similar to actual data used for data science research
- Managed and composed code design to handle unstable FTP connection intended for secure data transfer in support of code execution without error
- Created modular functions that work in conjunction by following modular functional programming principles to produce clean datasets

JSX Space Time ***(Ruby on Rails, React / Redux, HTML5, CSS3)*** live | GitHub

A full stack clone of PBS Space Time that streams PBS public broadcasting

- Constructed user authentication by employing BCrypt encryption on backend server and utilized rails MVC framework to persist login data across sessions that allows users' protection when entering sensitive information
- Established custom AJAX request to communicate with PostgreSQL database to transfer JSON data to frontend for DOM manipulation using React/Redux life cycle
- Delivered innovative UI features from wireframe conception to completion 20% faster using OOP design pattern

Education

City College of New York, Bachelor of Science, Major: Physics Aug 2016 – May 2020

App Academy 16 Weeks Remote Full-Time Software Engineering Program May 2020 – Sep 2020