Daniel Liem

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PROJECTS

Chromesthesia Live | GitHub

JavaScript, HTML5, CSS3, Webpack

- Applied a Javascript implementation of the simplexnoise algorithm to allow for natural textures and aesthetics
- Created a particle coloring and movement system using HSLA manipulation and Canvas API to simulate realistic paint motion
- Implemented a combination of setTimeout(), async functions, and other asynchronous programming principles as well as event handling to allow graphics to be reset by the user either on timer or on reclick
- Built a control panel UI using DOM manipulation and CSS styling to enable real-time interactivity

Pathfinder Live | Github

Ruby on Rails, JavaScript, Google Maps API, AWS S3, React, Redux, CSS3, Webpack, PostgreSQL

- Designed and implemented a well-organized relational database schema using Rails migrations, adhering to Model-View-Controller (MVC) architecture to ensure efficient data management and maintainability of code
- Leveraged a PostgreSQL database using Active Record to create database schemas and simplify data querying and updates
- Developed full CRUD functionality for user comments on trails using the Rails framework, implementing RESTful backend routes, model validations, and database constraints
- Utilized the Redux with Rails cycle to develop efficient state management for application data of trails, parks, and reviews and enable a search feature
- Integrated Google Maps API to enable trail maps and location services

Orcastra Live | Github

MongoDB, Mongoose, Express, Node.js, JavaScript, React, Redux, CSS3, MUI, AWS S3, Webpack

- Spearheaded team front-end direction by creating the initial application wireframe using Figma and initiating collaborative team discussions on brand vision, persona, and aesthetics
- Built scalable React components, utilizing a mix of custom components and MUI for enhanced visual appeal. Incorporated a combination of CSS and the AOS library to create smooth element animations
- Collaborated with a team of three engineers to synchronize Node backend with front-end efforts via Redux global state. Extensively utilized git features such as branching and forking to avoid merge conflicts and ensure diligent code review
- Implemented AWS S3 for trail data and photo storage, allowing for scalability of image services and reduced server load

SKILLS

React, Redux, Ruby, Ruby on Rails, Python, JavaScript, jQuery, TypeScript, HTML5, CSS3, Microsoft SQL Server, PostgreSQL, Express.js, MongoDB, Mongoose, AWS S3, MUI, Webpack, Git, Pair Programming

EXPERIENCE

HMMH **Boston, Massachusetts**

Consultant September 2021 – August 2022

- Established data analysis processes for the NASA X-59 Quiet Supersonic Aircraft Project, successfully transitioning the project from the planning phase into execution
- Implemented Python and MATLAB to develop web parsers, automation scripts, and project-specific programs for company-wide use, increasing the company's in-house software library and capabilities
- Conducted sound insulation fieldwork and analysis for Chicago Executive Airport and Baltimore/Washington International Thurgood Marshall Airport, reducing residential noise-metrics by 47%

Tsinghua University UAV Design Lab **Beijing, China**

Lead Flight Control Systems Engineer June 2019 – June 2020

- Conducted test-flights, prototype development, and post-flight analysis for fixed-wing and rotary-wing UAV projects
- Led efforts to successfully develop Pixwhawk-based autonomous flight control systems, utilizing PX4 and QGroundControl
- Won 2nd Place at the 2019 national CADC tournament (payload delivery category)

EDUCATION

App Academy **San Francisco, California**

Curriculum of Study in Web Development (Ruby on Rails, JavaScript, React Redux, MERN) November 2022 – March 2023

Tsinghua University **Beijing, China**

Bachelor of Engineering in Aeronautical and Astronautical Engineering Class of 2021

- 1st in Class Ranking (International Cohort)
- 2018 Recipient of the Outstanding International Students' Scholarship