DONALD LIU

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SKILLS

React, Redux, Ruby, Ruby on Rails, JavaScript, HTML5, CSS3, jQuery, SQL, PostgreSQL, Sqlite3, Git

EDUCATION

App Academy - Immersive 1000+ hour full-stack web development program with < 3% acceptance   (Spring ˙ 19)
Stony Brook University - *MS - Material Science Engineering,* GPA 3.79   (Fall ˙ 17)

PROJECTS

Pixel800   (Ruby on Rails, JavaScript, React, Redux, PostgreSQL, AJAX, HTML5, CSS3, AWS)   Live Site | Github
Single-page web application clone of 500px where photographers gain global exposure, implementing React/Redux for frontend

- Accelerated photo uploading process by eliminating full refreshes while minimizing expensive DOM updates.
- Formulated an efficient search bar and a dynamic modal for users to search the entire photo gallery by specified title and to upload photos instantaneously .
- Integrated multiple React-Redux action cycles to implement CRUD for users and photos through AJAX and various HTTP request types and usage of thunk middleware.

Floppy Duck   (JavaScript, HTML5, CSS3)   Live Site | Github
Interactive JavaScript game allowing users to competitively challenge other user's high score

- Developed custom physics engine with collision and gravity logic using HTML5 DOM manipulation and DOM traversing to provide an engaging user experience.
- Utilized JavaScript event listeners to create a fully responsive user interaction.
- Incorporated Google firebase API to persist data for high scores.

Project S.P.A.D.E (Solar Paneled Air Dispersal Extension) | SolidWorks/AutoCAD
A solar-powered air circulation system installed in vehicles to prevent heat strokes for infants and pets

- Developed a ventilation prototype that improves the circulation time of hot air by 50% compared to benchmark products through redesigned airway components and the addition of an alternative power source.
- Identified and strengthened critical points on the 3D prototype by performing Finite Element Analysis (FEA).

EXPERIENCE

Associate Software Engineer   (May ˙ 19 - Present)
App Academy

- Prepare and deliver daily lectures on programming fundamentals and best practices in software engineering.
- Perform daily code reviews on students' code in order to prepare them for one of the nation's top coding bootcamps.

Associate Project Manager/Administrator
Maspeth Welding Inc.   (Sept ˙ 18 - Nov ˙ 18)

- Surveyed for a $2 million project on implementing new steel structures to build a penthouse and rooftop patio space.
- Aided Project Managers in coordinating with general contractors to verify that the proposed ideas of implementing new components were 100% feasible before finalizing the implementation.
- Utilized AutoCAD software to precisely prepare detailed blueprints and shop drawings for fabrication processes.

PUBLICATIONS

Improved Methodology of DNA Fragmentation using Micro-patterned PDMS Stamps to Apply Cutting Enzymes   Live Article

- Developed 3.5 μm micro-patterns in PDMS to be used as enzymatic stamps for fragmenting DNA molecules.
- Modified an automation apparatus that allowed enzyme solution to be deposited into 10 μm - 15 μm micro-patterns.
- Characterized the desorption efficiency of approximately 77 DNA molecules on polymeric surfaces through the use of Fluorescence Confocal, Optical, and Atomic Force Microscopy.