

DONALD LIU

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[LinkedIn](#)

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SKILLS

React.js, Redux, Ruby, Ruby on Rails, JavaScript, HTML5, CSS3, jQuery, SQL, Git

EDUCATION

App Academy - Immersive 1000+ hour full-stack web development program with < 3% acceptance

(Spring'19)

Stony Brook University - MS - Material Science Engineering

(Fall'17)

PROJECTS

Pixel800 (Ruby on Rails, JavaScript, React.js, Redux, SQL, 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 engage users
- 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 redesigning airway components, and adding an alternative power source.
- Identified and strengthened critical points on the 3D prototype by performing Finite Element Analysis (FEA).

EXPERIENCE

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.

Graduate Researcher

Stony Brook University - Materials Science and Engineering Department

(Jun'16 - Dec'17)

- Mentored 7 students in biomaterial research and assisted them in national science competitions where they compete against approximately 1,800 students from 75 countries.
- Responsible for teaching 7 students on how to analyze and develop solutions to improve sequencing platforms by developing efficient splicing methods to maintain original positional order.

PUBLICATIONS

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

[Live Site](#)

- 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.