### **LUKE ESPINA**

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### **PROJECTS**

**BassCase** – React.js | Redux.js | Ruby on Rails | AWS Social music app inspired by SoundCloud

live: bass-case.herokuapp.com github.com/lespina/bass-case

- Utilizes a responsive design featuring animated modals, collapsible widgets and menus, hover-over previews all implemented in pure vanilla JavaScript and CSS3
- Implements a dynamic, list-based, upload form for convenient multi-upload functionality
- Features a collapsible, scrollable, drag-and-drop-sortable playback queue
- Leverages Amazon S3 storage and Paperclip library for scalable file uploads

## **Project 2**

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### **Project 3**

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### **SKILLS**

Python, Ruby on Rails, RSpec, JavaScript, jQuery, React, Redux, SQL, Git, HTML5, CSS3, AWS

#### **EXPERIENCE**

# NASA Armstrong Flight Research Center, California NASA Student Airborne Research Program

June 2015 – Aug. 2015

- Applied ENVI/IDL geospatial software to map oil proliferation and kelp population dynamics through ~100 gigabytes of remote-sensing satellite image data
- Computed relative kelp biomass, chlorophyll a concentration, and colored dissolved organic matter levels across ~100mi and 14 days of images to evaluate environmental fallout following the 2015 Refugio Beach Oil Spill
- Distilled results into 3' x 4' poster summary and presented at large research conference

## **Experimental Fluid Mechanics and Aerodynamics Lab, New York** June 2014 – June 2016 **Research Assistant**

- Applied MATLAB and instrumentation skills to capture and study airflow
- Improved the performance of wind energy harvesters by 15% through experimentation
- Completed research thesis on vortex formation behind cylinders located in a flow field

### **EDUCATION**

## **App Academy, New York City**

February 2018

- 1000-hour software development course with < 3% acceptance rate
- Teaches full-stack web development: Rails, JS, React, SQL, TDD, algorithms, design patterns, and best practices

### Macaulay Honors College at City College of New York, CUNY

June 2016

B.S. in Physics with Research Honors, magna cum laude, GPA: 3.5

• Introduction to Programming, Data Structures, Differential Equations, Discrete Math, Multivariable Calculus, Linear Algebra, Statistical Mechanics, Quantum Physics