Rob Roy Software Engineer

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SKILLS

Proficient: Ruby on Rails, Java, JavaScript, ReactJS/Redux, CSS, HTML
Exposure: Python, Java Spring, Hibernate, AWS (S3), SQL, C++, MongoDB, Express

PROJECTS

Bandcamp clone   (Rails, React, Redux, JavaScript, CSS)   live | github
A fullstack music app with Rails backend, React / Redux frontend, and AWS storage.
- Implemented secure user authorization using BCrypt.
- Built search bar passing queries to database, updating Redux state, and rendering search results in a dropdown list of links.
- Built music player with draggable slider (vanilla Javascript); the audio track can be changed from the music player component (from next song and previous song buttons), album component (select any track on given album) or search bar.
- Constructed an animated carousel with randomized time intervals, simulating the 'Selling Right Now' feature of bandcamp.

Shake It Up   (NodeJS, Mongo, Express, React, Redux)   live | github
A mobile-forward MERN-stack cocktail app.
- Designed the app to essentially load all data upfront, reloading only when the user refreshes, by writing thunk actions that check the redux state, and only make their GET requests when the data is not already loaded.
- Engineered 'build your own cocktail' feature that sequentially updates potential cocktails and compatible ingredients based on the users' choices, and prioritizes compatible ingredients that occur in higher numbers of the given cocktails.
- Designed the above component to set state based on url path, so users can for example use the back button in the browser.

Space Golf   (JavaScript, Canvas, HTML5)   live |github
A physics-based Javascript / Canvas game.
- Used Newton's law of gravitation to control the movement of the ball in relation to planets.
- Implemented playback speed controller that responds to keypress.
- Constructed a function that builds a wall, in the shape of any given parametric curve, for the ball to bounce off of.

EXPERIENCE

Visiting Assistant Professor of Mathematics
UT Tyler   Aug 2018 - May 2019
- Taught 5 classes, and was responsible for all aspects, including lectures, exams, and grading.
- Four sections of Calculus I and one section of Matrix Methods for Science and Engineering.

Teaching Assistant
Syracuse University   2011 - 2018
- As a Graduate Student at Syracuse University, was the main instructor (with responsibilities covering all aspects of the course), for classes including Calculus I, II and III.
- Served as recitation instructor for Elementary Probability and Statistics, with responsibilities including reviewing material, answering students' questions, administering and grading quizzes and exams.

EDUCATION

Web Development Bootcamp - *App Academy | Summer 2019*
PhD in Mathematics - *Syracuse University | 2011-2018 | 3.9 GPA*
BA in Mathematics - *Oberlin College | 2007-2010 | 3.69 GPA*