DAVID TAN
Software Engineer

646-329-2778   dtannyc1@gmail.com   Portfolio   Github   LinkedIn   New York, NY

SKILLS: React, Redux, Ruby on Rails, PostgreSQL, JavaScript, Ruby, MATLAB, SQL, HTML, CSS, MongoDB, Node.js, Express.js, AWS S3, WebSocket, Google Maps API, jQuery, Webpack, Git, TDD

PROJECTS:

Davescord - React, Redux, Ruby on Rails, JavaScript, PostgreSQL, AWS, WebSocket   live | github
A chat application inspired by Discord
- Built a custom RESTful API using a Ruby on Rails backend communicating with a PostgreSQL database via ActiveRecord queries
- Incorporated WebSockets for real-time messaging between users on mutual servers as well as AWS S3 for image hosting of custom user profile pictures and server icons
- Developed and implemented frontend architecture using React.js for fast page load speeds

Itinerator - MongoDB, Express, React, Node.js, JavaScript (ES6), HTML5, CSS3   live | github
A single page web application where users can build an itinerary of activities within close proximity of each other
- Securely stored hashed user information in a MongoDB database using the BCrypt library
- Employed Redux to manage frontend state changes in conjunction with React components to keep code DRY and to prevent unnecessary rerenders while users navigate the app
- Integrated Google Maps API to allow users to explore activity options on an interactive map
- Collaborated in a small team using Git version control to work on a single shared codebase

Relentless Clash - JavaScript, Canvas API, Keyboard API, and GamePad API   live | github
A 2-player fighting game written in vanilla JavaScript
- Created a custom physics engine with collision detection between players, gravity, friction on the ground, and knockback when players are hit or when their swords collide
- Leveraged Duck Typing to create a computer controller that simulates human player key presses, allowing the 2-player fighting game to run as a single player game against an AI
- Identified and resolved DOM manipulation latency issues using Chrome DevTools, resulting in a 50% increase in rendering speed for smooth gameplay

EXPERIENCE:

Georgia Institute of Technology, Atlanta, GA   *Aug 2014 - Dec 2019*
Graduate Research Assistant
- Conducted research resulting in 9 published journal articles and 12 conference proceedings
- Mentored 5 undergraduate students through graduate level experimental research
- Collaborated with and led multinational in-person and remote research teams

EDUCATION:

Georgia Institute of Technology, Atlanta, GA   *Dec 2019*
Ph.D. in Mechanical Engineering (all but dissertation), 4.00 GPA
Presidential Fellowship, GWW End of Ph.D. Studies Fellowship

The Cooper Union for the Advancement of Science and Art, New York, NY   *May 2014*
Bachelor of Engineering (BE) in Mechanical Engineering, 3.64 GPA