

# Tony J Huang

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## SKILLS

**Frontend:** • React • Redux • HTML5 + Canvas • CSS3 • jQuery

**Backend:** • Ruby on Rails • ExpressJS • SQL • PostgreSQL • MongoDB • Rspec • Jest • Heroku

**Others:** • Ruby • JavaScript • R • MATLAB • Microsoft Office (VBA, Pivot Tables) • Creo/SolidWorks • Git • AWS S3

## PROJECTS

### Breakout-Webcam

[live](#) | [github](#)

*Classic Atari Breakout game powered by machine learning to play with hand gestures.*

*(TensorFlow, JavaScript, HTML5, Canvas, CSS3, Webpack)*

- Incorporated hand gestures controls using TensorFlow to predict a multiclass classification from a trained convolutional neural network of frames captured by webcam.
- Formulated collision detection algorithm to remove brick and reflect off platform upon contact with ball.
- Applied OOP to abstract and encapsulate classes for game, platform, bricks, ball, and webcam controls.

### Kilogram

[live](#) | [github](#)

*Clone of Instagram, a photo sharing social networking platform.*

*(Ruby on Rails, BCrypt, AWS S3, ReactJS, Webpack)*

- Minimize FE code runtime for liking/unliking a post and following/unfollowing a user by devising an efficient Redux and API response data structure.
- Implemented user authentication using BCrypt for salting and hashing passwords.
- Stored image uploads in AWS S3 to reduce server load and scale application.
- Built reusable React components in combination with Redux for post show and posts index.

### Bored No More

[live](#) | [github](#)

*Activity prescription app for the bored based on user's preferences.*

*(MongoDB, ExpressJS, ReactJS, NodeJS, Yelp API, TicketMaster API)*

- Created backend API endpoint to reroute Yelp API calls to prevent CORS (Cross-origin resource sharing).
- Formalized code to create Axios request to Yelp and TicketMaster API based on application requirements.

## EXPERIENCE

### Liberty Mutual Insurance

**Boston, MA**

Analyst - Modeling, Data Science

Jul 2016 - Aug 2017

- Utilized R Leaflet package to create interactive HTML heat map visuals and generalized code to share with colleagues.
- Built catastrophe models in collaboration with senior director for competitive pricing.
- Aided sales and underwriting strategies by conducting regional segmentation analysis with hierarchical clustering and k-means.
- Performed geospatial smoothing to counteract abrupt step-wise grouping.
- Monitored operational pricing model for defects and trend deviations.
- Scripted R code to scrape public data repositories to enrich prevailing analyses.

Business Analytics Development Program, Analyst Associate II

Jun 2014 - May 2016

- Learned VBA to code an Excel tool for data gathering and analysis to aid decision making.
- Developed workforce capacity model for evaluating task-based staffing using multivariate linear regression.
- Improved predictive model performance by coding Excel user-defined functions to get data from web APIs.
- Created slides to communicate technical procedures and model results to business stakeholders.

## EDUCATION

### App Academy

**San Francisco, CA**

Graduate of a rigorous 1000-hour full stack web-development course

2018

### Boston University, College of Engineering

**Boston, MA**

Master of Science, Electrical Engineering; GPA 4.0

Attended Fall 2017 (Leave of Absence)

### Bentley University

**Waltham, MA**

Bachelor of Science, Actuarial Science; magna cum laude; Major GPA: 4.0

May 2014