

# Yong Bin (Ben) Gao

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## Skills

JavaScript, React.js, Redux.js, D3.js, Ruby, Ruby on Rails, HTML5, CSS3, Git, PostgreSQL, jQuery

## Projects

**Greens** (JavaScript, React / Redux, Ruby / Rails, HTML, CSS, Recharts.js, PostgreSQL)

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

*Web application, inspired by Robinhood, that displays companies' stock prices and allows trading of virtual stock shares.*

- Created specific SQL queries to efficiently access data of interest by separating table into partitions, reducing client-side computation.
- Charted stock prices with Recharts.js to effectively present large amounts of data over different timeframes while customizing Recharts tooltip with CSS to show detailed information when hovering over chart.
- Kept user and stock price information in Redux store/component state up-to-date by leveraging RESTful API.
- Reduced database tables by storing price data in React component's state eliminating the latency from updating/fetching data from database.
- Ensured user privacy and data protection with authentication pattern that limits page navigation with React Router and protects password with BCrypt hashing function.

**Electricity Energy Generation** (JavaScript, D3.js, HTML5, CSS)

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

*Web application that displays electrical energy generated by year and energy source for all US states.*

- Utilized D3.js to enhance the presentation of energy information with the appropriate chart type.
- Manipulated DOM elements to dynamically update and visualize different dataset with event listeners based on user input.
- Implemented a data formatting function that converts energy information from the US Energy Information Administration (EIA) into objects structured with hierarchy suitable for each type of chart.
- Defined sunburst chart's tween function for seamless transition between changing datasets allowing viewers to zoom and control which data subset to display.

## Experience

NYS Department of Transportation

**Professional Engineer I**

Nov 2018 - April 2019

**Assistant Engineer**

Sept 2015 - Oct 2018

**Junior Engineer**

Aug 2014 - Aug 2015

- Created 3D geometric design, using MicroStation's InRoads Suite, of a highway interchange ramp to improve traffic flow with land-use constraints.
- Performed traffic analysis within 2-mile radius to quantify the degree of improvement between current and projected level of services.
- Earned Employee of the Month award, as part of a team, for completing an accelerated maintenance project on schedule and within the budget of 5 million dollars.
- Maintained communication management with 9 agencies/companies to keep track of project progression.
- Supervised and trained 2 engineers to produce construction cost estimates, contract plans and vehicular safety analyses.

Cardno ATC

**Environmental Technician**

Jan 2014 - July 2014

- Identified and collected 30 potential environmentally hazardous materials per shift for laboratory testing.
- Organized laboratory results and prepared report detailing contaminated areas and cost of removal.
- Inspected NYC public schools for hazardous vapors from the building foundation and ensured an operational Sub-Slab Depressurization System.

## Education

**App Academy**

June 2019

Immersive software development course with focus on full stack web development.

**Rensselaer Polytechnic Institute**

BS - Mechanical Engineering

Dec 2012

ME - Mechanical Engineering

Dec 2012