

Patrick D. Landy

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TECHNICAL SKILLS

JavaScript, React, Redux, Ruby, Rails, SQL, PostgreSQL, SQLite3, HTML, CSS, Git, Java, MATLAB

PROJECTS

FormView (Rails, PostgreSQL, React)

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

Full stack web application inspired by [Wufoo](#) that allows users to create online surveys

- Implemented user authentication in a single-page app with React and Redux, enabling secure routing on front end and session token/password digest management on Rails backend
- Developed customized reducers and asynchronous action creators for error management in the front-end redux state in order to display specific feedback to users in response to incorrect inputs on different forms
- Designed database schema for forms and multiple levels of form sub-components, employing Rails Active Record associations and foreign key indexing to maximize the flexibility of form design for users while maintaining efficiency

NYC Greenhouse Gas Visualization (Javascript, D3, webpack, HTML, CSS)

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

Front-end application featuring interactive "sun-burst" graph created with D3 and parsed json data

- Leveraged the hierarchy and partition features of the D3 library to develop a flexible and responsive sun-burst visualization, resulting in a novel and intuitive display of public greenhouse gas emission data for New York City
- Utilized webpack to bundle assets for deployment, enabling greater flexibility in development and organization across multiple files
- Created customized functions with pure javascript fundamentals and D3 methods, leading to simple and flexible control of chart attributes such as color opacity

EXPERIENCE

Associate Engineer

EME Consulting Engineering Group, LLC

February 2017 - July 2019

- Designed replacement air conditioning systems for NYC school facilities, resulting in code compliance and approval of construction drawings for projects totaling \$3 Million+
- Created and presented technical reports and educational materials directly to clients on behalf of the firm, leading to increased company visibility and reputation

Mechanical Engineer

ME Engineers

August 2015 - February 2017

- Collected and analyzed weather data, psychrometric measurements, and air conditioning system operational trends, contributing to successful system commissioning of Arthur Ashe Stadium for the 2016 Tennis U.S. Open in Flushing, Queens
- Performed analysis and design of mechanical systems, including mechanical piping heat loss calculations, duct sizing, equipment selection, and mechanical drafting, resulting in on-time completion of design documents for clients
- Authored a MATLAB script for a numerical heat transfer calculation to inform high-level design decisions

EDUCATION

Web Development - App Academy

August - November 2019

BS Engineering, Mechanical - Cornell University, Cum Laude, 3.71 GPA

August 2011 - May 2015

Applicable Courses: Java, MATLAB, Multivariable Calculus, Linear Algebra, Differential Equations, Probability/Stats, Mechatronics

CERTIFICATION

Licensed Professional Engineer (PE), Mechanical/HVAC

August 2019

Certified Passive House Consultant (CPHC)

August 2016

PUBLICATION

P. Landy et al. *Electrostatic detection of stainless steel dust particles for fusion applications* Rev. Sci. Instrum. **85**, 036110 (2014)