Paul Angland

Software Developer

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Software Projects

Solar Calculator: Live | Repo.
Solar Calculator approximates the power generated from placing solar panels on user-selected regions.
- Incorporated the google map API to let users find locations and draw polygons on rooftops
- Used React to render panel data immediately each time a polygon is added or deleted
- Calculated nominal power generated from each region and total nominal power from all regions

EasySeating: Live | Repo.
EasySeating is an Opentable-inspired single page web app made using React and the Rails framework.
- Connected searchbar input to AJAX requests so that restaurant options are rendered in real-time
- Created reusable, DRY React components to improve readability and scalability
- Utilized ActiveRecord functions and database indexing to simplify and expedite complicated searches

Exploding Numbers Live | Repo.
ExplodingNumbers is a mathematical matching game that 'explodes' in difficulty the longer you take.
- Used HTML5 Canvas for rendering the game and animating all onscreen behavior
- Assigned mouse behavior to event listeners to promote easy interactivity with the game screen
- Wrote asymptotic functions to increase game difficulty over time without making the game impossible

PARC: Repo.
PARC (Paul's ActiveRecord Clone) is an ORM inspired by ActiveRecord.
- Utilized Ruby's metaprogramming and SQL to simplify database queries
- Made use of inheritance to keep code efficient and DRY

Skills

Technologies	Java, MATLAB, JavaScript, Ruby, Rails, React, Redux, jQuery, SQL, HTML, CSS, Git
Qualities	Strong analytical skills, skilled performance optimizer, practiced pair programmer, quick learner.

Experience

May 2014 - Dec 2016 **Laboratory for Laser Energetics**, *Researcher*, Rochester, NY.
Created a rigorous system for characterizing densities of plasmas that underwent a novel diagnostic
- Improved efficiency of comparison between synthetic and real data by 10x
- Wrote a custom simulated annealing algorithm that optimized complex multiparameter data profiles
- Designed an automated method for calculating the uncertainty of statistical error
- Proved the existence of and quantified the added uncertainty from degenerate density solutions
- Automated and combined uncertainty measurements for accurate and easy uncertainty calculations
- Published research on my work in the Review of Scientific Instruments Journal

Education

July 2017 - Sep 2017 **App Academy**, New York, NY.
- Rigorous 1000-hour software development curriculum with $< 3\%$ acceptance rate
- Topics include: TDD, scalability, algorithms, OOP, coding style, REST, security, single-page apps, and web development best practices

2011 - 2015 **University of Rochester**, Rochester, NY.
- Bachelor of Science in Physics.
- Winner of 2015 Professor's Choice Award for Best Natural Science Research