

# Zach Gavin

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 [Portfolio](#)  [Github](#)  [LinkedIn](#)

## PROJECTS

**Quill.org** (ES6, React/Redux, Firebase) | [home](#) | [repos](#)

Open source CMS & learning apps used by 200,000+ students.

- Built UI and layout features on React/Redux web app.
- Improved admin panel with Firebase data-fields for submission sorting functionality.

**GoodMOOCs** (Rails, React/Flux) | [live](#) | [github](#)

Single page app for discovering & reviewing online courses built from the ground up.

- Rails backend serves a RESTful JSON API to React/Flux frontend.
- Suggests courses with algebraic algorithm based on subject and past review activity.
- Builds indexed search tables for efficient SQL queries.

**Bounce Around** (Javascript, HTML5) | [live](#) | [github](#)

Browser game on HTML5 Canvas.

- Simulates realistic recoil / bounce algorithms using vector algebra.
- Simplifies keypress handling with Keymaster library.

**ActiveRecord Lite** (Ruby, SQL) | [github](#)

An ORM abstracting SQL queries with Ruby.

- Builds Object-Oriented relationship between Ruby classes and SQL database.
- Leverages Ruby metaprogramming to dynamically create methods to edit db models.
- Optimizes data retrieval with complex SQL joins rather than sequential queries.

## SKILLS

<b>Ruby</b>	<b>Rails</b>	<b>SQL</b>	<b>HTML/CSS</b>	<b>TDD</b>
<b>JavaScript</b>	<b>jQuery</b>	<b>React</b>	<b>Flux/Redux</b>	<b>Git</b>

## EDUCATION

**App Academy** - Acceptance rate under 3% 2015

- Intensive web development training program emphasizing pair programming, test-driven development, and best practices in JavaScript and Ruby on Rails.

**Swarthmore College** - B.A. in Math and Education 2010 - 2014

- Course Highlights: Linear Algebra, Discrete Mathematics, Statistical Analysis.
- Senior Thesis: Digital Game Learning in Intermediate Mathematics Pedagogy.

## WORK

**Development Assistant** - Philadelphia Education Fund 2015

- Updated and maintained hundreds of donors' data in Raiser's Edge.
- Conducted prospective donor research each month.

**Ocean Lifeguard** - National Park Service 2014 - 2015

- Controlled high stress emergency situations as leader of specialized team.
- Supervised 1000+ visitors per day across one quarter mile of shoreline.
- Trained rigorously for physical operations and vital medical activities.