

Zach Gavin

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

PROJECTS

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

Web app for discovering and reviewing online courses.

- 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 lookup.

BounceAround (*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

Ruby	Rails	SQL	HTML/CSS	TDD
JavaScript	jQuery	React	Flux	Git

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

- Supervised 1000+ visitors per day across one quarter mile of shoreline.
- Practiced Red Cross preventative lifeguarding for a major-accident free season.
- Addressed emergency situations and set schedules in Head Lifeguard's absence.

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.