

# Austin Young

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## PROJECTS

### MANIFOLD | [manifold.cc](http://manifold.cc)

Web app for task/project management and collaboration for academic research

- Monkey-patched Backbone collections to enable dynamic front end search for fields likely to be queried many times per session
- Wrote dynamic overridable autocomplete from scratch for task assignment
- Wrote user authentication using BCrypt gem with hashed and salted passwords

### REGATA | [regataregata.github.io](http://regataregata.github.io)

From-scratch JavaScript implementation of regular language expressions and graphical representation of their automata with Cytoscape.js

- Implemented bidirectional NFA-DFA conversion, bidirectional regex-DFA/NFA conversion, DFA minimization by Hopcroft's algorithm, regular expression parsing, expression simplification and conversion of DFAs to processable form

### BRAP | [austindyoung.github.io/BRAP](http://austindyoung.github.io/BRAP)

Original HTML5 Canvas physics game

- Generalizes the topological fundamental polygon to admit 4096 edge mappings for playing field

### FRONT-STAGE | [github.com/austindyoung/front-stage](https://github.com/austindyoung/front-stage)

jQuery plugin and Backbone Collections extension for form dynamics and front-end searching

- Prevents multiple fetches from the database per form submission
- Dynamically produces matching results and autocompletes from input, while allowing multiple models to be staged per input, and includes default submission

### SCALEX | [github.com/austindyoung/DFA-Regex](https://github.com/austindyoung/DFA-Regex)

Scala Implementation of regular language expression matching

## EDUCATION

### REED COLLEGE | B.A. Mathematics

May 2013 | Portland, OR

- Thesis: *The Finite Sums Theorem: a Topological Approach* | [compactification.co](http://compactification.co)

## WORK EXPERIENCE

### PRIVATE TUTOR | Math and Philosophy

2013 - 2015 | Bay Area, CA

- Developed custom extracurricular lesson plans and assignments for gifted students seeking enrichment materials
- Two students were accelerated one semester in math

### INTERN | Perkins Coie, LLP

Summer 2011 | San Francisco, CA

Supervisor: Michael R. Gotham, Director of Recruiting and Retention

- Collected market, industry, company and other demographic information
- Reviewed, summarized and analyzed industry trends

Github: [github.com/austindyoung](https://github.com/austindyoung)

LinkedIn: [linkedin.com/pub/austin-young/104/2a4/291](https://www.linkedin.com/pub/austin-young/104/2a4/291)

## SKILLS

Ruby  
Scala  
Ruby on Rails  
Javascript  
Backbone.js  
OO-design  
jQuery  
SQL  
HTML  
git  
CSS  
Haskell

## COURSEWORK

Programming  
Language Theory and Design  
Algorithms and Data Structures  
Combinatorics  
Topology  
Abstract Algebra