

Ryan Tobin

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PROJECTS

Treehaus (*Rails, React, jQuery, CSS*) | [live](#) | [github](#)

Basecamp3 inspired project managing and task managing app

- Single-page app powered by Flux-React architecture in the front-end
- Rails JSON API backend
- Create projects with teams, manage todo-lists, assign tasks with due-dates, record activity
- User authentication with BCrypt in Rails.

3DSnake (*Javascript, three.js, HTML5, CSS3D*) | [live](#) | [github](#)

Inspired by the classic "Snake" game except on a cube!

- takes advantage of the three.js library for smooth rotations computed on local gpu

Ruby Chess (*ruby*) | [github](#)

A terminal based chess game using cursable gem to select pieces .

- multiple levels of class inheritance for DRY code, maintainability, and organization
- basic AI

SKILLS

Ruby	JavaScript	SQL	HTML/CSS	Git	MPI	AWS
Rails	React	jQuery	AJAX	Python	SSH	RSpec

Statistical analysis: Python (Ipython, Numpy, Cython, Matplotlib, Pandas, etc.); Mathematica; Matlab
Lab: laser optics, oscilloscope, high voltage NIM Modules, ultra pure water systems ...

EDUCATION

App Academy (acceptance rate < 5%) – New York	2015
<i>Intensive web development training program emphasizing pair programming, best practices, and test driven development.</i>	
MS - Physics University of Hawaii at Manoa – Honolulu, HI	2014
BS - Physics University of California, Davis – Davis, CA	2011

EXPERIENCE

Research Asst. University of Hawaii at Manoa – Honolulu, HI	2013-2015
<ul style="list-style-type: none">• Wrote Python code and algorithms to implement large scale quantum lattice gas simulations on Maui High Performance Computing Center supercluster.• Witnessed first Bose-Einstein Condensate in Hawaii using laser optics to cool atoms to microKelvin temp. to create a macroscopic quantum state.	
Lab Teacher University of Hawaii at Manoa – Honolulu, HI	2011-2013
<ul style="list-style-type: none">• Instructed 3 hour laboratory classes of about 30 students 4 times per week in Classical Mechanics and Electromagnetism.• Devised lecture plans, held tutoring/office hours, and reviewed/graded assignments.	
Research Asst. University of California, Davis – Davis, CA	2009-2011
<ul style="list-style-type: none">• Constructed a 9 m^2 Cherenkov cosmic ray hodoscope (cosmic muon counter) and a lab room to house it.• Use of Labview, python and C (ROOT) for data acquisition and analysis.• studied/tested photometric redshift estimation programs that predict distances to galaxies by applying bayesian inference and neural network methodologies	

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