Andrew M. McNutt

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Personal Page Github Linked-in

Projects

Teacup · Source
A microblogging platform for viewing the collective unconscious. Single page Backbone app based on RESTful practices. Features data visualizations including trending topics and user population. Seed data was generated using a variety of large scale data scrapes and data cleaning techniques. Technologies include *Rails API, Backbone.js, jQuery, Nokogiri, and D3.*

N-Hydron
A computational exploration of a variety of techniques for constructing the three dimensional shape with n vertices, which are selected by forcing each of them to be maximally far apart on a sphere. Built in Mathematica, the project included implementations of a modified Steepest Descent, a traditional Monte Carlo optimization (with some Las Vegas style analysis), and the Golden Spiral algorithm.

Why Not Ipsum? · Source
A Lorem Ipsum generator populated by Zoidberg quotes, built following RESTful design practices. Included a large series of data scrapes, which were necessarily followed by intensive data cleaning. Technologies include *Rails API, Backbone.js, and Nokogiri.*

Skills

General Technologies	Ruby, Ruby on Rails, SQL, Javascript, Backbone.js, jQuery Node, Processing, D3, git, CSS, HTML
Scientific Computing	Mathematica, Grid Mathematica, Matlab, Lab View, Tracker
Other	Latex, Omnigraffle, Photoshop

Work

Research Assistant *Summer 2013*
Selected by faculty to study computational simulations of Quantum Gravity. Worked in collaboration with a research team to construct a coherent set of numerical solutions to the coupled Newton-Schrodinger with self-interaction problem. Specialized in the development of bound states for this system. Developed parallel model for the Klein-Gordon system.

Reed Computation Lab Manager *August 2012 to May 2013*
Selected by faculty to manage a Mac based computation cluster. Duties included management of software updates and other technical issues. Assisted other students with research that required the use of parallel systems.

Education

App Academy
August 2014 Cohort
A highly selective (less than 5% acceptance rate) full stack web development course. Projects included Ruby based web framework, my own Ruby ORM, ASTEROIDS, Async Node.js chat server.

Reed College
Bachelor of Arts, Physics, May 2014, Overall GPA: 3.26/4.00, STEM GPA 3.7/4.00
Senior Thesis: *Non-equivalent Lagrangian Mechanics*, advised by Nelia Mann
Curriculum emphasized a rigorous mathematical framework for mostly theoretical physics. Research interests include Computational Physics, Theoretical Mechanics, and Chaotic Dynamics. Finished with honors.