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## Recent Projects

### **Ready Responder**

**September 2017 - Present**

- Open source contributions to a Rails project that helps volunteer organizations manage their resources.
- See the pull requests [HERE](#) and [HERE](#).

### **Building a Chess App in a Remote Agile Team**

**July - September 2017**

Collaborated in a team of four to build a Ruby on Rails chess application that enforces the game rules.

- Built core components of the app including: validity checks, logic, and execution for castling, Facebook integration with OAuth, and business logic for legally moving pieces including RSpec tests. See the Pull Requests [HERE](#), [HERE](#) and [HERE](#) respectively.
- Followed standard Agile and SCRUM methodologies and best practices including test-driven-development, pair programming, and frequent code reviews.
- Tools included CodeClimate for automatic testing, Trello as an Agile board and Slack to ensure excellent communication between all developers.

### **BookQuest**

**June 2017**

- Independently implemented Rails app to search for and store books from Amazon in a logged-in user's library, attach notes to specific pages of books, and sort book listings by any field. [SEE THE CODE](#).
- Retrieves book information from Amazon via the ASIN ruby gem.
- Created Amazon e-commerce account and used Figaro gem to hide Amazon API keys.
- Used Devise gem to support separate user libraries.
- RESTful routes and full CRUD functionality for books and notes.

## Skills, Languages and Tools (proficiency on a scale of 0-5)

Ruby on Rails	5	Object Oriented Design	5
Java	5	Data Structures and Algorithms	5
Javascript	4	Git	4
CSS	4	RSpec	4

## Education

### **The Firehose Project**

**February - August 2017**

*Web Development, Algorithms, and Data Structures Foundations*

In an intensive, 24-week program, I learned how to be a full-stack developer capable of breaking complex problems into manageable tasks.

- Built out basic CRUD Rails apps involving validations, image uploading on AWS S3, and nested RESTful routes following standard Rails conventions.
- Built responsive interfaces with JQuery and AJAX.
- Implemented tests using the RSpec syntax for both unit and functional tests.
- Implemented traditional computer science algorithms and data structures using the Ruby Core Library.
  - Graph search (depth-first and breadth-first)
  - Linked lists
  - Stacks and queues

### **B.A. Mathematics**

**Graduated May 2011**

Yale University, New Haven, CT

## **Additional Projects**

### ***Coding Blog: Principles of Object Oriented Design in Ruby (POODR)***

- Wrote blog posts on OOD concepts learned from Sandi Metz's classic book [HERE](#) and [HERE](#).
- Wrote postings on a variety of other coding topics including [Ruby procs](#) and [when to ask for help](#).

### ***Graph and Flow Networks in Java (See the Code)***

- Implemented data structures and algorithms for Graphs and Flow Networks.
- Built from the ground up according to OOP best practices.
- Algorithms include BFS, DFS and Ford-Fulkerson.

### ***Enigma Machine Simulation in Java (See the Code)***

- Based on the World War II era mechanical device for encrypting text.
- Accurately simulates the poly-alphabetic substitution cipher on plaintext input.

### ***Computer Algebra System in Java (See the Code)***

- Wrote computer algebra system to store and manipulate algebraic expressions.

### ***Automatic Grading System in C (See the Code)***

- Wrote low-level program in Unix environment that automatically grades student coding assignments.
- Traverses filesystem, uses *fork* system call to compile and run external source files in the shell.
- Outputs grade with auto-generated explanation and logs to a CSV file.

### ***Gematrias in Python (See the Code)***

- Jewish tradition accords a unique numerical value to each Hebrew letter.
- Implemented program that reads in a text file in Hebrew and generates a hash table mapping integers to words of that value.
- Outputs report showing statistical distribution of word values in the file.

## **Work Experience**

### ***Instructor for Kaplan GRE Prep courses***

***May 2017 - Present***

- Organize, prepare and deliver in-person evening GRE courses consisting of 8 sessions each.
- Courses cover all Math, Verbal and Writing content and strategy needed to get a higher GRE test score.

### ***Machine Learning Intern***

***May 2015 - September 2015***

*iProov Ltd.*

- Implemented machine learning schemes using Python libraries scikit-learn and scipy.
- Tested and evaluated results for inclusion into software product.

### ***Web Developer***

***May 2007 - May 2008***

*Small Army*

- Developed backends in PHP/MySQL and front-ends in HTML/CSS for agency clients.
- Built sites according to designer specifications.
- Clients included Raytheon (internet and intranet), The Massachusetts Office of Travel and Tourism, Bugaboo Creek Steakhouse, and Cynosure.

## **Volunteering**

### ***Graphic Design Team Lead***

***December 2016 - January 2017***

*Health Innovators*

- Created graphics for promotional material.
- Coordinated workflow among designers, served as point of contact for other teams.
- Supported smooth execution of networking events of 70-100 people.