John **Spiva**

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Education

Medford, MA

Tufts University

2013 - 2017

(Expected) B.S. in Computer Science

Relevant Coursework

Assembly Language Programming, Programming Languages, Web Programming, Web Engineering, Numerical Analysis

Projects

Visualizing Julia sets in MATLAB ★ *2016*

- Wrote MATLAB code to plot and visualize Julia sets
- The program can animate the formation of a Julia set as well the development of a changing one

Trip Explorer ★ *2016*

- Built an application with 3 peers using React Native and D3.js at a hackathon
- The application uses the Trip Advisor API to suggest destinations based on what a user wants to do
- The suggestions are displayed using a force-directed graph built with D3.js

Bahstunes *2015*

- Built a web application with 3 other students using Node.js, Express, and MongoDB
- The application, Bahstunes, provides concert recommendations based on a user's Spotify "Starred" playlist
- The application allows users to add concerts to their Google calendar and get directions to concert venues with Google maps

Counting Murakami ★ *2015*

- Created a website using Node.js and Express as a final project for a Japanese literature class on Haruki Murakami
- Obtained word frequency data from text files of various novels using Ruby regular expressions
- Created and displayed multiple visualizations based on that data using various JavaScript graphing libraries

A Universal Virtual Machine *2014*

- Programmed an emulator for a simple computer at the machine architecture level using the C programming language
- The simple computer is called the Universal Machine, it has fourteen instructions and is Turing-complete
- Created for the class Machine Structure and Assembly Language Programming with a partner

★ = *link to project*

Experience

Tufts University Center for Engineering Education and Outreach *Medford, MA*

Engineering Intern *2013 - 2014*

- Designed a circuit that used an Arduino and a speaker to output ultrasonic tones
- Programmed an Arduino to output those tones for a certain amount of time at varying intervals

Vanderbilt Institute of Imaging Science *Nashville, TN*

Summer Intern *2011*

- Completed various small projects using MATLAB
- Learned about the diffusion MRI research taking place at the institute

Skills

C, C++, MATLAB, Ruby (Rails), HTML, CSS, JavaScript, Git, LaTeX