Michael McDermott

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Skills

JavaScript

Primarily because of its versatility and surrounding community, I love working with JavaScript. I strive to write clean, readable, object-oriented code that follows the functional programming paradigm. Utilizing frameworks such as React and AngularJS, I have built responsive, mobile-friendly user experiences using Karma, Jasmine, Mocha, Chai, and Sinon to test them. As for server-side, Node.js's asynchronous design, ability to render initial pages on the server (React/Angular 2), and expandability (Express/Koa/Hapi) make it fast, reliable, and easy for me to use it in my projects.

Other Front-End Technologies

I have used both pure HTML and HTML template languages such as Jade or Jinja2 in my projects. While the template languages offer some more functionality, I don't have a preference either way. As for styling, Sass/Scss with a post-processor (postcss/autoprefixer) is my first choice but I have experience with Less as well.

Databases

While familiar with the benefits and uses of other database types, the scale and needs of my projects have not called for anything other than MongoDB or MySQL. While they both have their use cases and benefits, I tend to prefer the syntax of MongoDB queries and their tolerance for complex, schema-less data.

High Performance (Cluster) Computing

At work, I have set assisted in the setup and currently maintain a cluster containing 3 masters and 12 slaves running Ubuntu. Resources shared amongst these servers and the relationships between masters and slaves are managed using the Apache Mesos kernel. Applications are deployed in Docker containers and run on Mesosphere's Marathon. The Hadoop file system is used as a common file system amongst the servers and large-scale data-processing jobs are run through Apache Spark.

Other Skills

Package managers (npm/bower/etc), Build processes (Gulp/Grunt), module bundlers (Webpack/Browserify), JSX, jQuery, AJAX, JSON REST, PhantomJS, Python, Java, nginx, HAProxy, Apache2, Linux (Ubuntu), openSUSE, Bash scripts, Git/SVN, Unix commands, Project management/Bug tracking (Jira).

Projects

LINCS Dataset Registry (http://amp.pharm.mssm.edu/LDR/)

⇒ A web application created to allow the LINCS Data Signature Generation Centers to submit their data release instances in a consistent and controlled format to be approved by the NIH.
⇒ The 83 data releases entered by users are crucial pieces of the LINCS Data Workflow.
⇒ The University of Miami and University of Cincinnati rely on the LINCS Dataset Registry's APIs for their own applications' data and login implementations.
⇒ Other applications at the Ma'ayan Lab are built on top of the LDR APIs including LINCS Milestones (http://amp.pharm.mssm.edu/milestones) and Docent 3 (http://amp.pharm.mssm.edu/docent3).
⇒ Code is available at https://github.com/dcic/LDR.

Personal Website (http://mgmcdermott.com)

⇒ A single page application built using React and hosted on two personal servers running Ubuntu with nginx and PM2.

Docent 3 (https://github.com/dcic/docent3)

⇒ A web application built for viewing LINCS datasets by assay and cell line. Built using d3, AngularJS, and NodeJS. Data and APIs come from the LINCS Dataset Registry.

⇒ Found at http://amp.pharm.mssm.edu/docent3

Marathon-Haproxy (https://github.com/MaayanLab/marathon-ha-proxy)

⇒ A dynamic haproxy config generator using Mesosphere's Marathon and its REST API

⇒ Sets up Marathon and HAProxy to run any application posted to Marathon but add any application with the labels { "public": "true" } to the HAProxy configuration file to be hosted online (available to the public).

Static (https://github.com/MaayanLab/static)

⇒ A static server built with NodeJS, Express, and Docker to serve static files from both the network file system on the cluster (for smaller files) and the Hadoop File System (HDFS) and provide them with a URL.

geneHome (http://github.com/mgmcdermott/gene) - In progress

⇒ An iPhone application written in JavaScript and built using React Native

⇒ A gene search engine built on top of Enrichr's (http://amp.pharm.mssm.edu/Enrichr) database

lincsproject.org - In progress

⇒ In charge of the remaking of lincsproject.org, implementing a design created by colleagues at the Icahn School of Medicine

⇒ Development version can be found at http://amp.pharm.mssm.edu/lincsproject

KevinandKevin.com - In progress

⇒ Redesigning and rebuilding the real estate website KevinandKevin.com

ManhattanEndo.com - In progress

⇒ Redesigning the website of ambulatory surgical center Manhattan Endoscopy

Experience

Research Programmer/Analyst - Icahn School of Medicine at Mount Sinai

November 2014 - Present

⇒ In charge of the development of web applications using primarily JavaScript (Node.JS and front-end) to assist researchers in their studies.

⇒ Current projects are the LINCS Dataset Registry (http://amp.pharm.mssm.edu/LDR) and the remaking of the NIH LINCS Program's website (http://www.lincsproject.org).

⇒ I maintain a cluster of 15 servers running web applications and high-performance-computing jobs on Apache Mesos (applications are run in Docker containers and monitored on Marathon).

IT Assistant/Developer - University of Connecticut

November 2013 - May 2014

⇒ Assisted in the development and maintaining of http://art.uconn.edu.

⇒ Managed time-sensitive issues through the telephone, met with clients, and solved various computer issues on both Windows and Mac OS platforms.

Contributing/Links

LinkedIn (https://www.linkedin.com/pub/michael-mcdermott/54/442/435)

StackOverflow (http://stackoverflow.com/users/3022545/mgmcdermott)

GitHub Contributions (https://github.com/mgmcdermott)

⇒ react-webpack-node (https://github.com/choonkending/react-webpack-node)
⇒ angular-ui/bootstrap (https://github.com/angular-ui/bootstrap)
⇒ angular-rangeslider (https://github.com/danielcrisp/angular-rangeslider)
⇒ sass-textmate-bundle (https://github.com/nathos/sass-textmate-bundle)

Lecture given to graduate/PhD students on HTML & CSS

⇒ Given at the Icahn School of Medicine at Mount Sinai
⇒ Found at http://slides.com/mgmcdermott/html-css-intro

Presentation on Implementing Token-Based Authentication

⇒ Given at the Icahn School of Medicine at Mount Sinai
⇒ Found at http://slides.com/mgmcdermott/token-auth

Assisted in the organization of 2 Coursera courses:

⇒ Big Data Science with the BD2K-LINCS Data Coordination and Integration Center (https://class.coursera.org/bd2klincs-001)
⇒ Network Analysis in Systems Biology (https://class.coursera.org/netsysbio-002)

Education

The University of Connecticut
Bachelor of Science in Engineering (B.S), 2010 - 2014
Major: Biomedical Engineering
Minor: Bioinformatics (Computer Science)
GPA: 3.12