Mike Barberry

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GitHub | LinkedIn

Software Engineer

Experienced engineer adept at consistently delivering reliable software from tenuous requirements on tight deadlines, using diverse technologies. Accomplished problem-solver with sharp intuition and ability to empathize with stakeholder perspectives.

TECHNICAL SKILLS

Languages: Python, JavaScript, HTML/CSS, SQL, MongoDB QL, Bash, Go
Libraries/Frameworks: Node.js, React.js, Next.js, TypeScript, Express.js, Strapi.js, Puppeteer, Vue.js, D3, Three.js, Plotly, Pygame, Sklearn, Pandas, NumPy
Tools & Platforms: AWS (API Gateway, CloudFormation, CloudFront, ECS, ECR, IAM, Lambda, Route53, S3, SES, SSM, etc.), Docker, Git, Nginx, Unix / Linux
Management + Design: Jira, Figma, Trello, Whimsical, Azure DevOps

PROFESSIONAL EXPERIENCE

Digital Infuzion **(**Remote**)** *Software Engineer* Dec 2022 – Present

Digital Infuzion is a technology company based on National Institutes of Health (NIH) contracts. (Lead or only engineer on all projects listed below.)

- **Automated Tool:** Created an automated Node.js tool to collect and report website compliance with Section 508, a section of the Rehabilitation Act of 1973 that mandates accessibility for electronic and information technology used by federal agencies. The program will work on any website. It uses Puppeteer, a code-based version of Chrome, to automatically visit URLs, click, hover, etc., and collect compliance data. Saved the company thousands of dollars that were being paid to a similar third party subscription service.
- **Centers of Excellence for Influenza Research and Response (CEIRR) Private Data Search Portal:** Developed a new version of a visually compelling and highly interactive private NIH data search portal using React.js, Next.js, and Node.js, drawing inspiration from a previous implementation. Users can apply a variety of filters that trigger complete data updates and search over a million records in 30+ project categories.
- **Data Visualization - NLP and Scatter Plots:** Built data visualizations to gain insight into how 900+ NIH funded grants, totaling over a billion taxpayer dollars, relate to one another. Performed natural language processing (NLP) in Python on a text field from an Excel dataset. Created HTML files from Ploty graph objects and made the results available on AWS S3 as a lightweight website.

- **Data Visualization - Parallel Coordinates:** Processed NIH data with Node.js. Designed and constructed a parallel coordinates chart with HiPlot / React.js to elucidate relationships between size of grants, in dollars, and project output (i.e. patents, publications, clinical trials). Deployed it as a website to AWS S3.
- **Flu Hub:** Engineered a new informational NIH public website on a deadline. Utilized React.js, Next.js and Node.js to craft 8 pages full of content stored in Strapi.js, a headless content management system (CMS). Configured all pages to have adaptive CSS to provide excellent user experiences on mobile, tablet and desktop. Produced AWS CloudFormation templates, Dockerfiles and performed all AWS ECS deployments.

Competitive Solutions **(**Remote**)** *Software Engineer* April 2019 – Dec 2022

Competitive Solutions is a technology company that produces in-house software and works on various client contracts.

- **Data Sharing with Partner Organization:** Implemented method to securely exchange authorized data with a partner organization by creating AWS S3 buckets, AWS IAM permissions and Node.js AWS Lambda functions.
- **Document Upload:** Designed and developed a solution for admin users to upload and attach documents to regular user data. Built website pages using React.js to perform uploads, optionally send emails during the upload process, and edit / delete uploads. Created MongoDB collection to store document metadata. Crafted Node.js server API endpoints to upload documents to AWS S3 and execute business logic.
- **NanoID:** Built features to display short IDs on the website. Researched open source solutions. Added an open source library function and configured it to automatically add short IDs to new data. Wrote and executed a Node.js script to add IDs to existing data. Updated React.js website code and Node.js server API routes.

PERSONAL PROJECTS

Cat Facts
Multithreaded Python Pygame program about cats

MikeBarberry.com
Personal website featuring 3D animation and blog

Go Tasker
To do list website made with Go and Vue.js

Quote Generator
TV show quote website built with custom elements

EDUCATION

Flatiron School, Software Engineering Bootcamp – *completed 640+ lessons, 350+ labs and 5 projects* 2019
University College London, M.A. in Philosophy 2016
Indiana University Bloomington, B.A. in Neuroscience 2015