Mike Barberry

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GitHub | LinkedIn

Software Engineer

Experienced software engineer with expert level React and Node.js skills. Adept at consistently delivering reliable projects on tight deadlines. Strong intuition in terms of technical approaches to solve difficult problems. Good ability to empathize with stakeholder perspectives.

TECHNICAL SKILLS

Languages: JavaScript, Python, Go, HTML / CSS, SQL, MongoDB QL, Bash

Libraries/Frameworks: React, Next.js, Node.js, MUI, ChakraUI, TypeScript, Express.js, Strapi.js, Vue.js, Three.js, Puppeteer, Plotly, Pygame, Sklearn, Pandas, NumPy

Tools & Platforms: Git, Unix / Linux, Docker, Nginx, AWS (S3, Lambda, Route53, ECS, CloudFormation, API Gateway, CloudFront, SES, SSM, ECR, IAM, etc.)

Management + Design: Figma, Jira, Azure DevOps, Trello, Whimsical

PROFESSIONAL EXPERIENCE

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

Digital Infuzion is a technology company based on National Institutes of Health (NIH) contracts.

- **Flu Hub:** *Engineered a new NIH website.* Utilized React, MUI, Next.js and Strapi.js to create a new full-stack website for the NIH based off of mockups from the design team. Content is stored in Strapi.js, a headless CMS, to offer the content team some flexibility to perform updates. Additionally, created AWS CloudFormation templates, Dockerfiles and Azure pipelines to deploy to AWS ECS and perform automatic deployments on git triggers, such as tags and merges.

- **Data Search Page:** *Created a web page for CEIRR, a NIH center, where users can filter and select from over a million records.* Utilized React and Next.js to construct the front-end, and discovered a way to write React code that facilitates crafting complicated user interfaces while retaining code legibility and extendibility. Connected the front-end to a DIFZ back-end API to retrieve partial data, and OpenSearch to populate the data records.

- **Parallel Coordinates Website:** *Developed a website that offers a visual representation of NIH funded projects and their output as a parallel coordinates chart.* Researched HiPlot, a Facebook research open source library, and utilized it in combination with React to produce a compelling front-end data visualization. First processed, cleaned and combined multiple CSV data files with Node.js. Finally, deployed the project as an AWS S3 static website.

- **Natural Language Processing (NLP) Scatter Plots:** *Engineered a NLP Python program to process NIH grant award data, collectively representing around one billion dollars in US taxpayer money, to gain valuable insights.* Built a series of Python algorithms to extract columns from an Excel file of NIH data and perform various combinations of NLP. Utilized Ploty to generate scatter plots, and created / deployed a lightweight website with JavaScript, HTML and AWS.
- **Automated Node.js Tool:** *Saved the company thousands of dollars by writing a software program to automate collection of Section 508 (federal law that mandates website accessibility for people with disabilities) alerts from web pages.* Created a Node.js / JavaScript program that uses Puppeteer, to administer a headless (code based) version of Chrome, and ANDI, a tool that generates Section 508 alerts. It takes URLs as input and outputs a PDF report of the combined data from all visited pages.

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

Competitive Solutions is a technology company that produces software they own as well as for 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 a 3D animation

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