Mike Barberry

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PROFESSIONAL EXPERIENCE

Digital Infuzion Remote

Software Engineer Dec 2022 – Present

- **Data Processing and Visualization:** (1) Processed and combined data from 3 CSV files into a single JSON object. Researched and identified a useful lesser known library, HiPlot. Built a parallel coordinates plot to visualize the processed data. (2) Developed bag-of-words and TF-IDF algorithms in Python to generate token frequency counts from Excel documents. Generated X, Y, and Z coordinates from frequency counts with Scikit-learn UMAP and PCA reduction algorithms. Plotted results with Ploty.
- **Flu Hub:** Engineered and deployed an 8 page full stack website. Designed React component structures and Strapi (headless CMS) content structures for every page. Built front end user interfaces based on mockups. Connected the front end code to the back end content through Next.js getServerSideProps functions. Created a novel approach to complex state management utilizing React's "lifting state up" and renderProps concepts. Wrote AWS CloudFormation templates and Dockerfiles. Performed all deployments.
- **Automation Tool:** Designed and built a scraping tool to address an organizational requirement to produce Section 508 compliance reports. Built a Node.js program to automatically add ANDI (a Social Security Administration open source library) to every page. Implemented Puppeteer methods to simulate page interactions and capture all alert data and metadata from each of the 8 ANDI modules. Developed a Node.js server to host a local ANDI instance. Wrote a function to generate a pretty PDF report with valuable insights from the scraped data. Saved the company thousands of dollars.

Competitive Solutions Remote

Software Engineer April 2019 – Dec 2022

- **Nano ID:** Designed and developed solution to address stakeholder requirement to show IDs shorter than the 26 character MongoDB default on the front end. Researched libraries and integrated nanoid into the codebase. Wrote a function to automatically invoke the library code and generate new IDs for future users. Built Node.js scripts to automate retroactively adding nano IDs to existing data.
- **Document Upload:** Engineered entire feature set to implement allowing users to upload and attach documents to data. Created 5 front end steps to guide users through the upload process that included the ability to optionally select other users to send an email notification with a message and a priority level. Wrote back end APIs to filter qualified email recipients based on business logic, accept data, send emails, process & store document metadata, and upload the documents to AWS S3 buckets.

TECHNICAL SKILLS

Languages: JavaScript, Bash, SQL, HTML/CSS, MongoDB Query Language, Go, Python
Libraries/Frameworks: Node.js, React.js, Next.js, Express.js, Plotly, Pandas, NumPy, Scikit-learn
Tools & Platforms: Git, Linux / Unix, Nginx, Netlify, Docker, AWS (Lambda, S3, CloudFormation, etc.)
Management + Design: Jira, Whimsical, Trello, Azure DevOps, Figma

PERSONAL PROJECTS

MikeBarberry.com Features a Three.js 3D graphic | **catfacts** Displays 60+ types of cats with pictures and info | **Quote Generator** Showcases TV show quotes | **GoTasker** Provides a functional to do list

EDUCATION

Flatiron School **Bootcamp:** Software Engineering 2019
University College London **MA:** Philosophy 2016
Indiana University Bloomington **BA:** Neuroscience 2015