Max Guthrie

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Experience & Involvement

Director of Technology at Engineering-Consulting Collaborative

06/2020 – 06/2021

Penn State professional organization dedicated to improving problem-solving, leadership, and consulting skills. E-CC offers pro bono consulting to local startups and seeks to help its members by offering resume and networking workshops.

- Made changes to HTML/CSS code for the organization's website.
- Lead a team of associates to develop a Flask web application with weekly meetings.
- Helped with hosting and writing in-house case competitions.
- Conducted several interviews for incoming members.

Member of PSU Association for Computing Machinery

01/2021 – 12/2021

- Explores concepts with workshops and assignments.
- Technical Interview preparation sessions.
- Received introduction to web frameworks and learned Flask.

Capstone: SMS Response Verification. Listrak, Inc.

01/2021 – 05/2022

https://github.com/Shakl0ne/SMS-neural-network-solution/network/members

- Used NLP & deep neural nets to categorize consumer responses for Listrak's SMS marketing platform.
- Designed a data visualizer in addition to the model.
- Weekly meetings with part of the Listrak team, the professor, and group members.

Education

B.S. Computer Science, Economics minor

Pennsylvania State University   GPA: 3.96

Graduation: 05/2023

Programming Languages

- Python
- JavaScript
- Java
- C
- HTML/CSS

Technical Skills

- Data structures & algorithms
- Time & space complexity analysis
- SQL basics
- socket programming
- parallel programming
- GIT
- Machine learning concepts & theory
- Tensorflow, SciKit Learn
- React, Node.js, express.js
- MongoDB
- Flask web framework
- Multivariable calculus, linear algebra, probability, scientific statistics

Projects

Cocktail Recipe App - React

https://github.com/mguthrie45/CocktailDB-Recipe-Browser

React app for browsing drink recipes of different category and nationality from TheCocktailDB API.

Concepts: requests, asynchronous JS, React concepts, filtering

Interactive Air Quality Map - JavaScript, HTML/CSS, Flask

https://github.com/mguthrie45/Interactive-Open-AQ-Map

Interactive map and table of US air quality data from OpenAQ API.

Concepts: HTTP requests, JSON parsing, Flask backend, searching & filtering tables.

Search Engine - Python3, Flask, HTML/CSS

https://github.com/mguthrie45/Search-Engine-Simulation

Web crawler discovers new addresses and grows SQLite database for improved searching.

Concepts: Databases, web crawlers.

JBOD Interface Final Project (CMPSC311) - C

https://github.com/mguthrie45/JBOD-Interface

Read & write interface for hard disks equipped with caching and remote calls using network sockets.

Concepts: pointers, structs, system calls, caching, socket programming, makefile, unit testing.

REST API for Blogs - Node.js, Express.js, MongoDB

https://github.com/mguthrie45/Blog-REST-API

REST API designed for blogs that keeps track of users, blog posts, and categories. Lama Dev YouTube channel is credited for assistance.

Concepts: REST architecture, backend, routing

Online Checkers - Python3

https://github.com/mguthrie45/Online-Checkers

Checkers made with PyGame and TCP sockets using client-server architecture.

Concepts: socket programming, parallel programming,