Mitch Neat

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EXPERIENCE

JDSAT Hybrid - McLean, VA

Associate I **Sept 2023 – Present**

- Architected and implemented an Angular frontend, Flask backend, and SQLite database within an Azure repository to build and display a simulation that is used to optimize the distribution and layout of medical forces in conflict areas
- Engineered a Python script leveraging OCR and NLP with BERT model to process 100+ diverse files, extract pertinent information and perform sentiment analysis with Doc2Vec, LDA, and other ML models for document comparison
- Designed a React Flask web app, enabling clients to perform real time comparisons for newly generated inputs
- Utilized ETL processes to seamlessly integrate diverse data streams into a comprehensive SQLite database

Associate II **Sept 2022 – Sept 2023**

- Redesigned Tableau dashboard to double metrics displayed and to help visualize limitations in access to care
- Constructed time series graphs and other visual aids to demonstrate inefficacies in Navy medical records
- Implemented ETL process combining a multitude of sources into SQL db critical to several Navy Medicine tools
- Developed a forecast of Navy hospital workload using ARIMA model fitted with Loess regression in R
- Wrote an R script to efficiently allocate Navy doctors based on forecasted workload

Junior Data Analyst **Oct 2021 – Sept 2022**

- Conducted extensive EDA on Navy vaccine records to identify incomplete cases and improve vaccine distribution
- Created repository for data cleaning, analysis scripts, and client customizable R Shiny web app tracking vaccine records
- Utilized a random forest ML algorithm to predict survival of Titanic passengers in Python for professional development
- Implemented YOLOv5 computer vision algorithm to identify invasive starfish in mp4 files and exported the notebook to Google Cloud Services to leverage greater computing power and storage

Center for Biostatistics & Health Data Science at Virginia Tech Remote - Blacksburg, VA

Bio-statistical Research Analyst Assistant **Nov 2020 – Oct 2021**

- Developed interactive React web app to visualize client's historical chapter participation data across 50+ locations
- Co-authored research paper linking COVID-19 outcomes and Vitamin D levels
- Modeled and visualized this relationship for age, race, and gender groups in R from vast TriNetX data set

Castle Ventures Corporation Remote - Newark, NJ

Cyber Security Analyst & Software Developer **Jun 2020 – Jun 2021**

- Designed PowerShell & R script to obtain and visualize top ten daily failed authentications
- Wrote PowerShell script to identify and fix dozens of broken links when moving files across servers
- Created PSQL database in AWS environment to hold client server info and built React Django website for data input

Engie North America, Genbright LLC Hingham, MA

Software Engineer Intern **May 2019 – Aug 2019**

- Developed backend Python and PSQL code to access, obtain, store daily power plant reports, and conduct EDA
- Visualized yearly trends and displayed linear regression model calculating optimal buy and sell times in React web app

PROJECTS

Personal Travel Tracker Website

- Created a React Django website with a clickable scratch off inspired world view illustrating counties I have visited, which pulls in SQL data for each country highlighting time visited, company, pictures, in country travel, and more trip details

Receipt Recognition and Financial Tracker

- Implemented an OCR model to read in grocery store receipts and pull individual items and prices into a SQL table
- Analyzed trends in purchases and costs over time to help with budgeting and track impacts of inflation in Python

Capstone Computer Vision System

- Implemented a computer vision model for aerial object marking using ML through the YOLO algorithm
- Parallelized with GPU to improve run time and added a Kalman Filter for object recognition, tracking, and counting

Parallel K-means Algorithm

- Parallelized Lloyd's K-means algorithm in C using OpenMP and MPI on compute clusters to study parallel scaling

EDUCATION

Virginia Tech Blacksburg, VA

B.S. Computational Modeling and Data Analytics – Biological Sciences Concentration

SKILLS

Python, R, SQL, PSQL, Java, C, C++, Tableau, JavaScript, HTML, CSS, Django, Flask, React, Angular, MATLAB, Git, Unix Emacs, PowerShell, SAS, Cuda, MPI, OpenMP, OpenCV, Microsoft Office, Adobe Photoshop and Illustrator