Mitchell Neat

Adaptive - Curious - Persistent
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Experience

JDSAT — Hybrid - McLean, VA

Associate I — Sept 2023 - Present

- Collaborated with a small team across Angular frontend and Flask backend, implementing a SQLite database within Azure repository to build a tool that simulates and optimizes the distribution and layout of medical forces in conflict areas
- Engineered a Python script leveraging OCR and NLP to process 100+ diverse files, extract pertinent information and perform sentiment analysis with TF-IDF, BERT, 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

Junior 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 Assistant — Nov 2020 – Oct 2021

- Developed interactive web app with R Shiny to visualize client's historical data
- Co-authored research paper linking COVID-19 outcomes and Vitamin D levels
- Researched and visualized this relationship in R from vast TriNetX data set
- Utilized SAS to assess the validity and importance of factors from a community culture survey

Castle Ventures Corporation — Remote - Newark, NJ

Cyber Security Software Developer Intern — 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 information and built 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, and store daily power plant reports
- Conducted exploratory data analysis and visualized trends in yearly energy reports resulting in actionable insights

Projects

Personal Travel Tracker Website

- Created a Django website with a clickable scratch off inspired world view illustrating counties I have visited, which pulls in SQL data for each country's tab 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
- Wrote a Python script to analyze historical trends in individual purchases and changing costs over time to help with budgeting and track personal impacts of inflation

Capstone Computer Vision System

- Implemented a computer vision model for aerial object marking using ML through the YOLO algorithm
- Added features to utilize GPU to decrease run time and use a Kalman Filter for object recognition, tracking, and counting

Parallel K-means Algorithm

- Wrote parallel implementations of Lloyd's K-means algorithm in C using OpenMP and MPI
- Utilized Virginia Tech compute clusters to perform studies on parallel scaling efficiency

Education

Virginia Tech — Blacksburg, VA

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

Technical Skills

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