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Education (Rowan University)

MS Data Science **Graduated Jan 2025**
BS Computer Science **Graduated May 2022**
Pi Mu Epsilon Math Honors Society

Skills

Python, Pandas/NumPy, Scikit, SQL, Neo4j, Redis, R, Tableau, Linux/Command Line/Shell, Java, Git, C++, Docker, AWS, ggplot, DDS Pub/Sub Messaging, CI/CD, AGILE

Professional Experience

ASRC Federal/Agile Decision Sciences:
Software Engineer (AEGIS/SSDS) **Nov 2022 - Current**

- Government Contractor dedicated to providing the Navy with critical defense software.
- Main contact between the customer and development team on 3 new development projects, including delegating tasks to other developers. Developed design for implementation of new software functionality utilizing C++, Java, Ada, TclTk, and DDS Messaging.
- Completed 50+ assignments in new development, as well as bug fixes in crucial system components.
- Mentor for 7 new developers, detailing SOP's, familiarizing them/helping to learn the system to complete new tasking.
- Introduced a new testing standard within my team for feature engineering to reduce conflicts with other teams code, and minimize design defects/bugs within our program.
- Helped to implement a static analysis tool that will be used to scan the codebase and find potential risks/issues that could be fixed to improve functionality and performance of the system.
- Developed a standard for documentation within my team to save new developers weeks of time when implementing new DDS messaging functionality.

Projects

Obesity Level Predictive Model **Fall 2024**

- Created 3 machine learning models in R to accurately predict a patient's obesity level based on a subset of factors contained in the data.
- Exploratory Data Analysis (EDA) completed using Principal Component Analysis(PCA) and Factor Analysis (FA) techniques. Utilizing a standard test/train split, trained Logistic Regression, Random Forest, and K-Nearest Neighbor. Models accurately predicted obesity levels 97%, 97%, and 79% of the time respectively.

NGS Omics Cancer Cell Line Gene Expression **Spring 2024**

- Aligned raw sequencing reads to reference hg19 genome. Converted the data to SAM/BAM files to perform variant calling, transcript assembly, ChIP-Seq, and MACs2 analysis. The raw reads were obtained from NCBI aligned with Bowtie2, and analyzed with Bcftools, Cufflinks, and ChIP-Seq/MACs2.
- Identified p53 signaling and cell cycle regulation were differentially expressed between the K562(Myelogenous Leukemia) and MCF-7 (Breast Cancer) cell lines.
- Identified POLR2A bindings as potential therapeutic targets for treatment.

Football Stats Python-Redis Application **Spring 2024**

- Designed a Python application to utilize in memory storage database Redis to store Football league/player data from an API. JSON data is parsed for user specified fields, stored in a Redis database and then displayed to the user in a menu driven interface. The menu allows the user to utilize any of the built in functionality by providing input.

Sales Recommendation Analysis **Spring 2024**

- Goal of creating actionable insights to increase profits in countries in the bottom 50th percentile, based on sales data.
- Used Tableau to visualize which countries were the best to target, as well as find pre-existing seasonal trends to increase profits.

Breast Cancer Tumor Analysis **Fall 2021**

- Cleaned a data set focused on Breast Cancer patients and tumor information.
- Used different Data Mining techniques, KNN, Naive Bayes, and Random Forests to find how accurately a machine learning model was able to predict whether the tumor was benign or malignant based on the medical characteristics that were provided to it. The models were able to predict correctly 89% of the time on average.

Internships

Rowan University/ASRC Federal:
Machine Learning Research **Fall 2021- Spring 2022**

- Developed a GPT-2 model that could take code chunks and generate readable comments relating to the supplied functional code. Evaluated proficiency using the BiLingual Evaluation Understudy (BLEU) score. The model's BLEU score was ~.50.

References Available Upon Request