Allen Lau

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Developer Portfolio: https://lau-allen.github.io | LinkedIn: http://www.linkedin.com/in/allenlau2019

Education

City College of New York August 2022 - Present
Master of Science, Data Science & Engineering | GPA: 3.90/4.00

Purdue University August 2015 – May 2019
Bachelor of Science, Mechanical Engineering | GPA: 3.80/4.00

Skills

Programing Languages: Python, R, SQL, MATLAB, MUMPS, C++

Data Science: Data Preprocessing, Elementary Data Analysis, Feature Selection, Modeling, Web Scraping, Natural Language Processing, Image Processing

Development Tools: Visual Studio Code, RStudio, GitHub, Jupyter Notebook, Tableau

Projects & Experiences

Search Engine ETL February 2023 – March 2023
- Designed a MySQL Database to store URLs resulted from search engine queries and asynchronously requested text data, using python (mysql.connector, aiohttp, asyncio, beautiful soup), to support custom search engine application

Vaccine Efficacy Dashboard November 2022 – December 2022
- Developed a dashboard with Python (dash, plotly, pandas) and CSS/ HTML to explore the effect of vaccines efficacies and the proportion of vaccine variants used on the vulnerability to COVID-19 infection for a country's population

Hospital Mortality Classification Model November 2022 – December 2022
- Utilized python (pandas, numpy, sklearn, statsmodels) to create a K-Nearest Neighbors model to predict if a patient will experience mortality with an accuracy of 88%, after applying techniques for feature selection like random forest

Digit Classification Model October 2022 – October 2022
- Processed images of hand-written digits to train and validate an ordinary least squares and logistics classification model to label digit images with an error rate of less than 5% using R

Calendar Web Scraping September 2022 – September 2022
- Created a web scraping program, that leveraged Python (requests, beautiful soup, apiclient) and Google API, to extract text data from academic calendar website and pushed the formatted information into Google Calendar

Predictive Model Implementation October 2019 – June 2022
- Managed the implementation of predictive models at hospitals that utilize patient data to predict outcomes to guide clinicians in their decisions to provide quality patient care and reduce negative patient and financial outcomes

Regulatory Reporting Compliance December 2019 – June 2022
- Ensure successful reporting to the Centers of Medicare & Medicaid Services to prove compliance of regulatory standards and confirm safe, effective, and timely patient care

Hospital Utilization and Capacity March 2020 – May 2020
- Oversee efforts to streamline hospital system COVID-19 responses, including identification of affected patients, monitor ventilator utilization, and counter increased workload by identifying data and summarizing dashboards

Professional Experience

Technical Solutions Engineer, Epic Systems Corporation (Verona, WI) August 2019 – June 2022
- Partnered with three healthcare systems to identify and manage projects, ensuring successful implementation and operationalization of functionality with Epic's Electronic Medical Record (ERM) and clinical application
- Acted as a subject matter expert for the Wound Care app, which supports clinical workflows surrounding the intervention and treatment of wounds, to provide expertise and drive the success of the product
- Resolved and troubleshoot 500+ system build issues to maintain the system health of the EMR and to address the workflow concerns of stakeholders, while collaborating with a wide variety of functional teams

Biomechanics Research Assistant, Temple University (Philadelphia, PA) May 2019 – August 2019
- Led the planning, design, and manufacture of a traumatic brain injury simulator, using SolidWorks and 3D printing, to provide numeric data of cell viability in the research of Chronic Traumatic Encephalopathy (CTE)

Wind Turbine Central Maintenance Engineer, NextEra Energy Inc. (Juno Beach, FL) May 2017 – August 2017
- Developed data analysis and map tool, using Microsoft Excel and Power BI, to predict wind turbine failures, coordinate maintenance projects, and visually depict data models to decrease overall maintenance costs