Abeer Mathur

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EDUCATION

The Pennsylvania State University, College of Engineering   **University Park, PA**
Bachelor of Science in Computational Data Science   **May 2024**
Minor: Mathematics, Statistics

Relevant Coursework: Machine Learning, Big Data (Scala, Hadoop), Data Structures and Algorithms, Programming in Python, Data Management for Data Science, Statistics, Probability, Artificial Intelligence, Web-based Object-Oriented Programming.

EXPERIENCE

Data Science Intern (Database Redesign/API Performance Degradation Analysis)   **Remote, PA**
Constellation Energy   **Jun 2023 – Aug 2023**
- Redesigned and optimized an Oracle _SQL_ database for a customer-centric application serving 200,000 users by utilizing _Agile_ design practices, resulting in a _44%_ reduction in database size.
- Analyzed inefficiencies in performance and runtime for API endpoints by writing _KQL_ queries and building a _PowerBI_ dashboard, leading to improvements in performance and runtime.

Data Scientist (Autonomous Vehicle Project)   **State College, PA**
Penn State Advanced Vehicles Team   **Jan 2023 – Aug 2023**
- Built a level 4 autonomous vehicle as a "Perception" team member for a project partnered with General Motors.
- Collected and calibrated (Cepton) LiDAR and (Delphi) Radar outputs by publishing the raw data to a _ROS_ topic.
- Streamlined the Radar data collection process by running a _Python_ script in _Docker_ to convert raw data into usable 3D coordinate data.
- Utilized the data to train a "YOLO" machine learning model to detect pedestrians and objects from up to 175m.

Assistant Data Scientist (Addiction Dashboard project)   **State College, PA**
Department of Human Development and Family Studies   **Oct 2021 – May 2022**
- Extracted and cleaned geolocation data pertaining to recovering addicts through SQL and _R programming_.
- Examined the dataset and built functioning data visualizations like charts and digital line graphs in _Tableau_.
- Analyzed the dataset and synthesized key findings in a formal presentation to my team.

Lead Data Scientist (KCF Industry 4.0 project)   **State College, PA**
KCF Technologies (Automotive Company), Engineering Leadership Society Volunteer   **March 2022- Apr 2022**
- Collaborated to collect survey data from major automotive companies regarding Industry 4.0 Practices.
- Developed visualizations on the survey data using _Tableau_ and presented our findings to company executives.

Artificial Intelligence Tic Tac Toe Game   **State College, PA**
Personal Project   **June 2021 – July 2021**
- Employed my knowledge of object-oriented programming, data structures, and algorithms concepts to apply the "minmax" algorithm and build a two-player _AI(Artificial Intelligence)_ Tic-Tac-Toe game in _Java_.
- Integrated a GUI that supports a two-player system through the JOptionPane library.

Android App Development (CodePath)   **State College, PA**
Personal Project   **June 2021 - July 2021**
- Incorporated _Agile_ programming methodologies to create clones of apps such as Instagram, Twitter, and Flicker.

LEADERSHIP / VOLUNTEER

Abba Java Coffee   **State College, PA**
Barista Volunteer   **2020 – Present**
- Serve coffee and help distribute food, clothing, and other goods to students and those in need in the State College community.

Statistics Club   **State College, PA**
Vice President   **2023-2024**
- Managed club activities, organized club social events, spoke to sponsors and companies to organize talks, trips, and activities for club members.

50/50 Raffle   **State College, PA**
Volunteer Sales associate   **November 2022**
- Sold **$3090** in raffle ticket sales in 3 hours through my excellent communication and negotiation skills.
- **Ranked 1st** out of 25 sales representatives at the event while being the only individual seller in the group.

SKILLS

Tools: Python (numpy, sklearn, pandas, matplotlib, XGBoost) * SQL * Java * PowerBI * R (dplyr, tidyverse, ggplot2) * Docker * Linux * Git * Hadoop * Scala (Spark) * Azure DevOps * Tableau * KQL * Android Studio * Figma * Azure
Techniques: Agile * ETL * Statistical Modeling * Machine Learning * Artificial Intelligence * Data Visualizations * Data Analysis * Data Cleaning * Object Oriented Programming * CI/CD * DevOps