

# Abeer Mathur

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## 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

**Concepts:** Agile \* ETL \* Statistical Modeling \* Machine Learning \* Artificial Intelligence \* Data Visualizations \* Data Analysis \* Data Cleaning \* Object Oriented Programming \* CI/CD \* DevOps

## EXPERIENCE

### Data Science Intern (Database Redesign/API Performance Degradation Analysis)

Constellation Energy

Remote, PA  
June 2023 – August 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)

Penn State Advanced Vehicles Team

State College, PA  
Jan 2023 – Present

- Collaborated with a small sub-team to help build a level 4 autonomous vehicle in a project partnered with General Motors.
- Collected (Cepton) LiDAR and (Delphi) Radar outputs by publishing the raw data to a ROS topic.
- Calibrated the LiDAR and Radar data by testing and analyzing the outputs in a Docker container.
- Streamlined the Radar data collection process through a Python script that provided 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)

Department of Human Development and Family Studies

State College, PA  
Oct 2021 – May 2022

- Utilized SQL and R programming skills to extract and clean geolocation data pertaining to recovering addicts.
- Examined the dataset and built functioning data visualizations like charts and digital line graphs using Tableau.
- Analyzed the dataset and synthesized key findings in a formal presentation to my team.

### Lead Data Scientist (KCF Industry 4.0 project)

KCF Technologies (Automotive Company), Engineering Leadership Society Volunteer

State College, PA  
March- April 2022

- Worked collaboratively to collect survey data from major automotive companies regarding Industry 4.0 Practices.
- As the lead data scientist, created visualizations on the survey data using Tableau and debriefed my team on my findings.
- Led the team and presented our findings to company executives in a 25-minute-long formal presentation.

### Artificial Intelligence Tic Tac Toe Game

Personal Project

State College, PA  
June 2021 – July 2021

- Utilized my knowledge of data structures, algorithms, and object-oriented programming 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.

### CodePath Android Development

Personal Project

State College, PA  
June 2021-July 2021

- Incorporated Agile programming methodologies to create clones of apps such as Instagram, Twitter, and Flickr (check website).

## EDUCATION

### The Pennsylvania State University, College of Engineering

Bachelor of Science in Computational Data Science GPA: 3.5/4.0

University Park, PA  
May 2024

Minor: Mathematics, Statistics

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

## LEADERSHIP/ EXTRACURRICULARS

### Statistics Club

Vice President

State College, PA  
2023-2024

- Lead club activities organized club social events, spoke to sponsors and companies to organize talks, trips, and activities for club members.

### 50/50 Raffle

Volunteer Sales associate

State College, PA  
November 2022

- Sold **\$3090** in raffle ticket sales in 3 hours through my excellent communication and negotiation skills.
- Ranked 1<sup>st</sup>** out of 25 sales representatives at the event while being the only individual seller in the group.

### Abba Java Coffee

Barista

State College, PA  
2020 – Present

- Serve coffee and help distribute food, clothing and other goods to students and those in need in the State College community.