Aditi Kharkwal

(206) 209-8952 | akhark@uw.edu | LinkedIn: Aditi Kharkwal

Education

University Of Washington — Seattle, WA
Master of Science in Data Science; CGPA: 3.88/4 — *September 2022 - March 2024 (expected)*

Vellore Institute of Technology — Vellore, India
Bachelor of Technology in Information Technology; CGPA: 8.5/10 — *Jul 2016 - May 2020*

Relevant Coursework: Data Structures & Algorithms, Machine Learning, Deep Learning, Data Visualization, Web Mining

Skills

Python, R, Tableau, Power BI, SQL, JAVA , SAP BI, Machine Learning, Predictive Modeling, Statistical Modeling, DataVisualization

Projects

- **University Predictor System**: Developed a system to predict the probability of getting into a university based on previous years' records. Using K- means clustering algorithm and Silhouette Score universities were divided into clusters and tiers were assigned to them. The weights were adjusted by means of a backpropagation with gradient descent method to get the probability of getting into a particular university. Tier prediction was done using multilayer perceptron to get the predicted list of college.
- **Statistical analysis of US Road accidents**: Various statistical tests were used to test hypothesis to find out factors affecting severity of accidents. We evaluate the following assumptions for testing procedures such as the independent samples t-test: independence, normality, and homogeneity. We next used ANOVA and Chi-square tests to test our hypotheses and a multiple linear regression model to determine the key parameters. As a result, we determined that our approach was adequate for the scoped-in analysis.
- **Webcam Based Face Recognition and Emotion Detection using CNN**: Developed a facial expression recognition system which performs the three learning stages in just one classifier - Convolutional Neural Network (CNN). The data training was done by fisher face classifier using training data. During testing the system receives a grayscale image of a face along with its respective eye center locations, and outputs the predicted expression by using the final network weights learned during training. An accuracy of 85% was achieved.
- **Energy Consumption Forecasting**: Built a system to predict the energy consumption of VIT University using the ML models - Short-term memory, support vector machine and K-nearest neighbor . The data set used was real time data from our city - Vellore, which consisted of electrical power data. Results were tested using RMSE, where a low RMSE was achieved.
- **Statistical Sentiment Analysis on E-Commerce Reviews**: Performed sentiment analysis of a dataset which included more than 3,00,000 reviews of items bought from Jabong over the span of 3 years. Using machine learning algorithms like Naive Bayes, Support Vector Machine and Linear Regression on Jupyter Notebooks the analysis was performed. The accuracy of each model was calculated and improved by modifying parameters. The results were then presented in the form of a graph.
- **Visualization of Spotify song's features on Tableau**: Performed exploratory data analysis on Tableau using a Spotify dataset consisting of songs from different genres along with feature description of each song. The versatile dashboard consisted of parallel co-ordinate graph, dynamic scatter plot, pop up window of song page dashboard, Star plot and popularity charts.

Experience

Wolters Kluwer — Pune, India
Associate Engineer - Business Intelligence — *January 2020 - September 2022*

- Developed, designed and optimized SAP reports, Universes (IDT and UDT) and BI dashboards using visualization tools like Web Intelligence and Crystal Reports. Effectively translate end user reporting requirements into functional design documents. Build test cases and perform comprehensive testing.
- Creating complex SQL queries to extract, analyze, manipulate and/or calculate information to fulfill data and reporting requirements from various data sources.
- Collaborated with business analysts to gather specifications for data and report requirements, which provides an easy way of looking for the required data from approximately 40-50 GB of unorganized data.
- Built use cases and chain process models to automate reporting tasks on RPA application - UI Path, streamlining 4 hours of manual job a week into a 5 minute job.

Accord Software and Systems — Bangalore, India
Data Science Intern — *May 2019 - June 2019*

- Trained data into Machine learning models after rigorously cleaning data and preprocessing it. The data received was from GPS/Global Navigation Satellite System (GNSS) maintained by Accord for their device Navi-Track. Tested and modified to improve the efficiency of developed ML Models which were used for accident probability prediction.

Achievements & Extracurricular

- Mentorship co-pillar lead for Women's Initiative Network at Wolters Kluwer Global.
- Girls swimming team captain from August 2017 - December 2019. Recipient of VIT Sports scholarship (Swimming) for 4 years.
- Recipient of GV School Development Program (GVSDP) scholarship for 4 years at Vellore Institute of Technology.
- Volunteer at the each one teach one program at NGO Juvinile Care VIT.