Vaibhav Koshta

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Summary

An entry level data scientist and java developer seeking a challenging and rewarding opportunity with an organization which recognizes and utilizes my true potential while nurturing my technical and analytical skills.

SKILLS

Machine Learning: Classification, Regression, K-Means Clustering, Ensemble Learning.

Statistical Methods: Predictive Analysis, Hypothesis, Random Forest, Basket Analysis, Text Analytics, Bagging, Boosting, Naive Bayes, Data Mining.

Programming Languages: JAVA, R, Python, ReactJS, NodeJS, Javascript, Typescript.

Cloud Computing: AWS

Database Language: MySQL

Data Reporting Tool: Tableau

EXPERIENCE

Shri Shankaracharya Institute of Professional Management and Technology, Raipur – *Teaching and Research*

July 2019 – May 2022

- Involved in the teaching and research work.
- The area of research includes embedded system designing and IOT based devices.
- Filed a Indian patent titled – "An IOT Intelligent Smart System for LPG Gas Leakage Detection and Prediction". This project solves the problem of LPG gas leakage in the industries which can cause fire outbreak. It uses the Arduino UNO and MQ gas sensors to detect the leakage of LPG gas and sends a notification into the mobile number of the owner thereby preventing the end consequences of gas leakage.
- Filed a Indian patent titled – "Board Cleaner". The main objective of designing this project is to prevent the teachers from chalk powder. At the same time it collects the chalk powder into a tray which can later be further processed into chalks. It uses Arduino UNO, Bluetooth module and motors which can be controlled from mobile application.

National Institute of Technology, Raipur - *Senior Research Fellow*
May 2022 - PRESENT

- Design an artificial intelligence based non invasive multi channel medical device.
- Involved in the designing of an artificial intelligence based non invasive multi channel medical device employing deep learning Convolutional Neural Network, and machine learning models like Logistics Regression, KNN, Empirical mode Decomposition, Empirical Wavelet Transform etc. in order to classify the patients into having lung disease or healthy.
- Performed hardware designing using stethoscope, microphone, preamplifier circuit to recorded the patients lung sounds with audacity and apply machine learning and deep learning techniques for solving the binary classification (Normal-Abnormal) problem.

PROJECTS

- **Coronary Heart Risk Study**
  Concepts Involved: Exploratory Data Analysis, Missing Value Treatment, Outlier Analysis
  The aim of this project work is to analyze the data set received from the medical practitioner in order to identify whether the person either male or female will have a heart risk disease after ten years given the set of variables. The project work also identifies the most important variables which are the main causes of heart attacks and suggests the appropriate solution to reduce the risk of heart attack in the next ten years. The dataset consist of 16 variables which are divided into 5 categories like demographic, behavioral, medical history, current medical and target variable. SMOTE was applied to treat the data unbalancing problem and various machine learning models viz. logistic regression, naïve bayes and random forest was designed and tested. Random forest achieves the highest accuracy of 98.34%.
  GitHub link:
  https://github.com/vaibhavkoshta21/vaibhavkoshta_coronaryheartrisk/tree/main

- **Time Series Forecasting**
  Concepts Involved: ARIMA, Augmented Dickey Fuller Test.
  The objective of this project is to predict the monthly gas production in Australia. A model has been built using ARIMA technique and ADF test (Augmented Dickey Fuller) is utilized to test whether the given data is stationary or not. The challenges faced during the model building are the stationarity of the data. The model build has the mean absolute percentage error of 9.476
  GitHub link: https://github.com/vaibhavkoshta21/TimeSeriesForecasting/tree/main

- **Data mining project to predict customer default on loan**
  Concepts Involved: CART, Random Forest, Rank Order Table, KS, AUC, GINI.
  The objective of this project work is building a Data Mining Model to predict whether the costumer will default on the loan or not or will he/she responds to the loan campaign.

Concordance and Discordance are utilized to predict the accuracy of the build models. Challenges faced during the project work are – handling the large data set of 20,000 observations and grouping them into similar groups. The given data set contains categorical as well as continuous variables with large variations in their mean value, to overcome this problem we have to scale the data and check correlation among them. The accuracy of the model is found to be 96.48%.
GitHub link: https://github.com/vaibhavkoshta21/dataMining/tree/main

- **Student Management Web Security**
  Concepts Involved: Spring, Web Security, Hibernate MySQL.
  A web security application was developed which will add, update and delete the student records from the database. This application implements the spring MVC web security and hibernate is used to interact with the MySQL database.
  GitHub link: https://github.com/vaibhavkoshta21/VaibhavKoshta_BED_LabRestAPI

- **Employee Management Rest Api based Web application**
  Concepts Involved: Spring Boot, Rest API, MySQl, Web Security, Hibernate.
  An Employee Management Rest Api based Web application is created, where we implemented CRUD (Create, Read, Update and Delete) functionality along with Sorting and some concepts of security. The application is able to add roles like admin and user in the database where only admin have the access to delete and update the data. The application is also capable of sorting the data from the first name either in ascending or descending. It uses hibernate to interact with the database MySQL database utilizing spring mvc for the designing of web application.
  GitHub link:https://github.com/vaibhavkoshta21/S1VaibhavKoshta_BED_GradedProject4

- **Customer Relationship Management**
  Concepts Involved: Spring Boot, ORM, MySQL, Hibernate, Spring MVC.
  Created web application which will accept the first name, last name and email id from the customers and provided action buttons like add customer, update and delete the entries. The database created is maintained using the MySQL. It uses hibernate to interact with the database utilizing spring mvc for the designing of web application.
  GitHub link:
  https://github.com/vaibhavkoshta21/VaibhavKoshta_ORMandSpringMVCAssignmentSolution

CERTIFICATIONS or AWARDS

- Certificate on course on **"Python Data Structures"** from Coursera.
- Certificate on course on **"Programming for Everybody (Getting Started with Python)"** from Coursera.
- Certificate course on **"A Crash Course in Data Science"** from Coursera.

EDUCATION

Great Lakes Executive Learning, Chennai- *Advanced Certificate Program in Full Stack Development*

Great Lakes Executive Learning, Chennai- *Post Graduate Program in Business Analytics and Business Intelligence.*

Master's, Raipur Institute of Technology, Raipur- *M.Tech, 76.4%*

Bachelor's, Disha Institute of Management and Technology, Raipur-*B.E., 76.48%*

Higher Secondary School, Salem English School, Raipur- *72.2%*

High School, Salem English School, Raipur- *71.16%*