Predictive Analysis of Marketing Campaign Success in the Banking Sector

Overview

This Shiny application, titled 'Bank Campaign Success Predictor Using LDA', analyzes and predicts the success of marketing campaigns using data from the Bank Marketing Dataset. The primary goal of this application is to determine whether a client will subscribe to a term deposit based on demographic, financial, and campaign-related features.

Live App

You can access the deployed Shiny app using the following link:

Bank Campaign Success Predictor https://mohammed-saif-alotaibi.shinyapps.io/fainlproject/

Features

- Brief Description: Provides an overview of the application and its objectives.
- Data Overview: Displays the dataset used for analysis, including variable descriptions and a data summary.
- Variable Analysis: Visualizes selected variable distributions and provides summary statistics.
- Variables vs. Target Variable: Shows the relationship between selected variables and the target variable, including a correlation matrix.
- Modeling: Uses Linear Discriminant Analysis (LDA) to predict client subscription success. Visualizes model performance with an ROC curve.
- Prediction: Allows users to input demographic and financial data to predict the likelihood of subscription success.

How to Run Locally

1. Clone the repository: git clone https://github.com/Mohammedsaif2030/Predictive-Analysis-of-Marketing-Campaign-Success-in-the-Banking-Sector.git
2. Open R or RStudio and set the working directory to the app folder: setwd('path/to/app')
3. Install required packages: install.packages(c('shiny', 'shinythemes', 'plotly', 'DT', 'dplyr', 'tibble', 'caret', 'pROC', 'tidyr'))
4. Run the app: shiny::runApp()

Dataset

The dataset used in this application is from the Bank Marketing Dataset. It contains demographic and financial data of clients who were contacted during marketing campaigns conducted by a Portuguese banking institution.

Technologies Used

- R
- Shiny
- LDA (Linear Discriminant Analysis)
- Plotly for data visualization
- DT for interactive tables

Author

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