DASHBOARD FOR BREAST CANCER DATASET

20BDS0146

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CSE3050

DATA VISUALIZATION AND PRESENTATION

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SLOT:C1+TC1

Abstract

An interactive platform for examining the relationship between various dataset variables and the classification of breast cancer is offered by the Shiny dashboard created using the Breast Cancer dataset.The dashboard has scatterplots that let users explore the connections between various features and a class feature that forecasts the amount of recurrence events. Users can also change the classification model's parameters, such as the number of observations to plot, features, and feature-based data analysis. Overall, the Shiny dashboard is a helpful tool for learning more about the Breast Cancer dataset and investigating the connection between various variables and the breast cancer categorization.

RPubs Link:

R Code:

ui.R

```r
library(shiny)
library(shinydashboard)
library(dplyr)
library(ggplot2)
data <-
read.csv("https://archive.ics.uci.edu/ml/machine-learning-databases/breast-cancer/breast-cancer.d
ata", header = FALSE)
colnames(data)<-c("Class","age","menopause","tumor_size","inv_nodes","node_caps","deg_mal
ig","breast"," breast-quad","irradiat")
View(data)
ui <- dashboardPage(
  dashboardHeader(title = "Shiny Dashboard using Breast Cancer dataset-20BDS0146"),
  dashboardSidebar(
    selectInput("variable1", "Select variable 1", names(data)[-1]),
    selectInput("variable2", "Select variable 2", names(data)[-1])
  ),
  dashboardBody(
    fluidRow(
      box(
        plotOutput("densityplot"),
        width = 6
      ),
      box(
        plotOutput("scatterplot"),
        width = 6
      )
    ),
    fluidRow(
      box(
        plotOutput("barplot"),
```

```
    width = 6
  ),
   box(
    plotOutput("histogram"),
    width = 6
   )
  ),
  fluidRow(
   box(
    tableOutput("summary"),
    width = 12
   )
  )
 )
)
```

server.R

```
server<- function(input, output) {
 # Create the scatterplot
 output$scatterplot <- renderPlot({
  ggplot(data, aes_string(x = input$variable1, y = input$variable2, color = "Class")) +
   geom_point()+labs(title=paste("Scatter plot"))
 })

 # Create the barplot
 output$barplot <- renderPlot({
  ggplot(data, aes_string(x =input$variable1, y ="deg_malig"))+
   geom_bar(stat="identity",fill="blue")+labs(title = paste("Bar plot"))
 })

 # Create the histogram
 output$histogram <- renderPlot({
  ggplot(data, aes_string(x = data$deg_malig, fill = "Class")) +
   geom_histogram(alpha = 0.5, position = "identity", bins = 30)+labs(x="deg-malignant",title
= paste("Histogram plot"))
 })

 # Create the densityplot
 output$densityplot <- renderPlot({
```

```
    ggplot(data, aes_string(x = input$variable1, fill = "Class")) +
      geom_density(alpha = 0.5) +
      labs(title = paste("Density plot"))
  })



}
# Run the app
shinyApp(ui, server)
```

OUTPUT