Knn

**Dataset:** http://archive.ics.uci.edu/ml/datasets.html

Install some packages:

1st step: install.packages("caret")

2nd Step: install.packages("pROC")

3rd step: install.packages("mlbench")

4th step :# Libraries

1. library(caret)
2. library(pROC)
3. library(mlbench)

5th step:

# Example-1 Student Applications (Classification)

1. data <- read.csv(file.choose(), header = T)
2. str(data)
3. data$admit[data$admit == 0] <- 'No'
4. data$admit[data$admit == 1] <- 'Yes'
5. data$admit <- factor(data$admit)

6th step: # Data Partition

1. set.seed(1234)
2. ind <- sample(2, nrow(data), replace = T, prob = c(0.7, 0.3))
3. training <- data[ind == 1,]
4. test <- data[ind == 2,]

7th step: # KNN Model

1. trControl <- trainControl(method = "repeatedcv",

number = 10,

repeats = 3,

classProbs = TRUE,

summaryFunction = twoClassSummary)

1. set.seed(222)
2. fit <- train(admit ~ .,

data = training,

method = 'knn',

tuneLength = 20,

trControl = trControl,

preProc = c("center", "scale"),

metric = "ROC",

tuneGrid = expand.grid(k = 1:60))

8th step:# Model Performance

1. fit
2. plot(fit)
3. varImp(fit)
4. pred <- predict(fit, newdata = test)
5. confusionMatrix(pred,test$admit)