Navie Bayes Classifier

// download e1071 package .tar file go to Tool<-install packages<- import packages< - browse

// click on install package

> library(e1071)

> data(iris)

> fit <- naiveBayes(Species~., data=iris)

> summary(fit)

Length Class Mode

apriori 3 table numeric

tables 4 -none- list

levels 3 -none- character

call 4 -none- call

> predictions <- predict(fit, iris[,1:4])

> table(predictions, iris$Species)

predictions setosa versicolor virginica

setosa 50 0 0

versicolor 0 47 3

virginica 0 3 47

Knn

> normalize <- function(x) {

+ num <- x - min(x)

+ denom <- max(x) - min(x)

+ return (num/denom)

+ }

> iris\_norm <- as.data.frame(lapply(iris[1:4], normalize))

> summary(iris\_norm)

Sepal.Length Sepal.Width Petal.Length Petal.Width

Min. :0.0000 Min. :0.0000 Min. :0.0000 Min. :0.00000

1st Qu.:0.2222 1st Qu.:0.3333 1st Qu.:0.1017 1st Qu.:0.08333

Median :0.4167 Median :0.4167 Median :0.5678 Median :0.50000

Mean :0.4287 Mean :0.4406 Mean :0.4675 Mean :0.45806

3rd Qu.:0.5833 3rd Qu.:0.5417 3rd Qu.:0.6949 3rd Qu.:0.70833

Max. :1.0000 Max. :1.0000 Max. :1.0000 Max. :1.00000

> set.seed(1234)

> ind <- sample(2, nrow(iris), replace=TRUE, prob=c(0.67, 0.33))

> iris.training <- iris[ind==1, 1:4]

> iris.test <- iris[ind==2, 1:4]

> ris.trainLabels <- iris[ind==1, 5]

> iris.trainLabels <- iris[ind==1, 5]

> iris.testLabels <- iris[ind==2, 5]

> library("class")

> iris\_pred <- knn(train = iris.training, test = iris.test, cl = iris.trainLabels, k=3)

> iris\_pred

[1] setosa setosa setosa setosa setosa setosa setosa setosa

[9] setosa setosa setosa setosa versicolor versicolor versicolor versicolor

[17] versicolor versicolor versicolor versicolor versicolor versicolor versicolor versicolor

[25] virginica virginica virginica virginica versicolor virginica virginica virginica

[33] virginica virginica virginica virginica virginica virginica virginica virginica

Levels: setosa versicolor virginica