1. WEKA output

=== Run information ===

Scheme: weka.classifiers.functions.LinearRegression -S 0 -R 1.0E-8 -num-decimal-places 4

Relation: housing-weka.filters.unsupervised.attribute.Normalize-S1.0-T0.0

Instances: 506

Attributes: 14

CRIM

ZN

INDUS

CHAS

NOX

RM

AGE

DIS

RAD

TAX

PTRATIO

B

LSTAT

class

Test mode: split 80.0% train, remainder test

=== Classifier model (full training set) ===

Linear Regression Model

class = -9.6455 \* CRIM + 4.5845 \* ZN + 2.7187 \* CHAS=1 + -8.4447 \* NOX +19.8404 \*RM +-16.4152 \* DIS +6.891 \* RAD + -6.1717 \* TAX + -8.8973 \* PTRATIO + 3.6846 \* B + -18.9373 \* LSTAT +26.7718

Time taken to build model: 0.01 seconds

=== Evaluation on test split ===

Time taken to test model on test split: 0 seconds

=== Summary ===

Correlation coefficient 0.8528

Mean absolute error 3.1897

Root mean squared error 4.4629

Relative absolute error 53.574 %

Root relative squared error 53.3441 %

Total Number of Instances 101

* The linear regression equation contains 13 terms where class (or also known as MEDV) is the dependent term, the value 26.7718 is the intercept and all the other 11 terms are independent variables and the value of the class variable depends on the other 12 terms (independent variables and the intercept)

1. Linear Regression equation:

Num\_rings= -0.8249\*sex=I + 0.0577\*sex=M + -0.4583\*length + 11.0751\*diameter + 10.7651\*height + 8.9754\*whole\_weight + -19.7869\*shucked\_weight + -10.5818\*viscera\_weight + 8.7418\*shell\_weight + 3.8946

1. Linear Regression equation

Num\_rings= -12.145386208043801\*length + 19.551268811372715\*diameter + 38.11860730706116\*height + 3.003808465360419

1. Updated R code:

########################################################################################################################

# geosphere is a really cool library for spatial calcs, see

# https://cran.r-project.org/web/packages/geosphere/vignettes/geosphere.pdf

#install.packages('geosphere')

# use the library to compute polygon stats such as area, perimeter, centroid

library('geosphere')

# the pairs of values are long,lat...

pol <- rbind(c(-118.1702,34.0103), c(-118.1717,34.0109), c(-118.1715,34.0113), c(-118.1707,34.0121), c(-118.1659,34.0120),c(-118.1654,34.0114),c(-118.1652,34.0106),c(-118.1702,34.0103))

areaPolygon(pol)

perimeter(pol)

# store the centroid in 'c' because we'll need it below, for plotting

c <- centroid(pol)

c

c[1][1]

c[2][1]

########################################################################################################################

# leaflet is an R port of the excellent leaflet.js library (https://leafletjs.com/)

# see https://cran.r-project.org/web/packages/leaflet/leaflet.pdf

#install.packages("leaflet")

# use leaflet to plot the convex hull coords, plus centroid

library("leaflet")

m <- leaflet()

m <- addTiles(m)

# our centroid - right now, it's the centroid of the 'pol' polygon above

m <- addMarkers(m, lng=c[1][1], lat=c[2][1], popup="Hull centroid")

# our convex hull - right now it's a piece of Venice Beach!!

m <- addCircleMarkers(m, lng=-118.1702, lat=34.0103,label="MBS", radius=2, fillOpacity=1.0,fill = TRUE, fillColor ="red")

m <- addCircleMarkers(m, lng=-118.1717, lat=34.0109,label="ViterbiSchoolofEnginnering", radius=2, fillOpacity=1.0,fill = TRUE, fillColor ="red")

m <- addCircleMarkers(m, lng=-118.1715, lat=34.0113,label="CARlab", radius=2, fillOpacity=1.0,fill = TRUE, fillColor ="red")

m <- addCircleMarkers(m, lng=-118.1707, lat=34.0121,label="SchoolOfCinematicArts", radius=2, fillOpacity=1.0,fill = TRUE, fillColor ="red")

m <- addCircleMarkers(m, lng=-118.1659, lat=34.0120,label="ORL", radius=2, fillOpacity=1.0,fill = TRUE, fillColor ="red")

m <- addCircleMarkers(m, lng=-118.1654, lat=34.0114,label="ShoahFoundation", radius=2, fillOpacity=1.0,fill = TRUE, fillColor ="red")

m <- addCircleMarkers(m, lng=-118.1652, lat=34.0106,label="MarksHall", radius=2, fillOpacity=1.0,fill = TRUE, fillColor ="red")

m <- addCircleMarkers(m, lng=-118.1702, lat=34.0103,label="MBS", radius=2, fillOpacity=1.0,fill = TRUE, fillColor ="red")

# time to see the results

m

Console Output:

########################################################################################################################

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> #install.packages('geosphere')

> # use the library to compute polygon stats such as area, perimeter, centroid

> library('geosphere')

> # the pairs of values are long,lat...

> pol <- rbind(c(-118.1702,34.0103), c(-118.1717,34.0109), c(-118.1715,34.0113), c(-118.1707,34.0121), c(-118.1659,34.0120),c(-118.1654,34.0114),c(-118.1652,34.0106),c(-118.1702,34.0103))

> areaPolygon(pol)

[1] 95494.57

> perimeter(pol)

[1] 1395.493

> # store the centroid in 'c' because we'll need it below, for plotting

> c <- centroid(pol)

> c

lon lat

[1,] -118.1684 34.01122

> c[1][1]

[1] -118.1684

> c[2][1]

[1] 34.01122

>

> ########################################################################################################################

> # leaflet is an R port of the excellent leaflet.js library (https://leafletjs.com/)

> # see https://cran.r-project.org/web/packages/leaflet/leaflet.pdf

> #install.packages("leaflet")

> # use leaflet to plot the convex hull coords, plus centroid

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> m <- addCircleMarkers(m, lng=-118.1702, lat=34.0103,label="MBS", radius=2, fillOpacity=1.0,fill = TRUE, fillColor ="red")

> # time to see the results

> m

> ####################################################################