Mardia's Multivariate Normality Test

---------------------------------------

data : .

g1p : 75.56817

chi.skew : 4534.09

p.value.skew : 0

g2p : 251.8035

z.kurtosis : 12.46184

p.value.kurt : 0

chi.small.skew : 4576.946

p.value.small : 0

Result : Data are not multivariate normal.

---------------------------------------

Mardia's Multivariate Normality Test

---------------------------------------

data : .

g1p : 99.12792

chi.skew : 1734.739

p.value.skew : 2.857575e-120

g2p : 268.15

z.kurtosis : 10.687

p.value.kurt : 0

chi.small.skew : 1791.061

p.value.small : 1.232542e-128

Result : Data are not multivariate normal.

---------------------------------------

Mardia's Multivariate Normality Test

---------------------------------------

data : .

g1p : 124.6283

chi.skew : 851.6266

p.value.skew : 2.011102e-14

g2p : 243.3391

z.kurtosis : 2.925232

p.value.kurt : 0.003441997

chi.small.skew : 922.7286

p.value.small : 3.329945e-20

Result : Data are not multivariate normal.

---------------------------------------

Mardia's Multivariate Normality Test

---------------------------------------

data : .

g1p : 95.39472

chi.skew : 667.763

p.value.skew : 0.001130622

g2p : 219.0086

z.kurtosis : -0.7641452

p.value.kurt : 0.4447807

chi.small.skew : 722.1783

p.value.small : 4.028966e-06

Result : Data are not multivariate normal.

---------------------------------------

Mardia's Multivariate Normality Test

---------------------------------------

data : .

g1p : 117.0083

chi.skew : 1677.12

p.value.skew : 7.620153e-112

g2p : 267.4753

z.kurtosis : 9.52408

p.value.kurt : 0

chi.small.skew : 1743.641

p.value.small : 1.387116e-121

Result : Data are not multivariate normal.

---------------------------------------

Mardia's Multivariate Normality Test

---------------------------------------

data : .

g1p : 113.8093

chi.skew : 986.3473

p.value.skew : 5.579368e-26

g2p : 245.3725

z.kurtosis : 3.640725

p.value.kurt : 0.0002718713

chi.small.skew : 1051.185

p.value.small : 2.230625e-32

Result : Data are not multivariate normal.

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Mardia's Multivariate Normality Test

---------------------------------------

data : .

g1p : 107.8603

chi.skew : 611.2082

p.value.skew : 0.06608338

g2p : 218.9001

z.kurtosis : -0.7024729

p.value.kurt : 0.4823843

chi.small.skew : 672.8278

p.value.small : 0.0007164566

Result : Data are multivariate normal.

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##### Cross Validation #####

# El siguiente código fue escrito por Manuel Amunategui, y puede encontrarse

# su página de github: (http://amunategui.github.io/multinomial-neuralnetworks-walkthrough/)

totalAccuracy <- c()

cv <- **359**

cvDivider <- floor(nrow(ech\_wa) / (cv+1))

**for** (cv **in** seq(1:cv)) {

# assign chunk to data test

dataTestIndex <- c((cv \* cvDivider):(cv \* cvDivider + cvDivider))

dataTest <- ech\_wa[dataTestIndex,]

# everything else to train

dataTrain <- ech\_wa[-dataTestIndex, ]

crossval <- multinom(grupos\_agnes\_mah\_redu\_wa\_6~ ., data=dataTrain, maxit=500, trace=F)

pred <- predict(crossval, newdata=dataTest, type="class")

# classification error

cv\_ac <- postResample(dataTest$grupos\_agnes\_mah\_redu\_wa\_6, pred)[[1]]

print(paste('Current Accuracy:',cv\_ac,'for CV:',cv))

totalAccuracy <- c(totalAccuracy, cv\_ac)

}

mean(totalAccuracy)

# Con cv=359, mean(totalAccuracy) = 0.7966574