

Supplementary Material

Rootstock's and Cover-Crops' Influence on Grape: A NIR-Based ANN Classification Model

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#ANN model
# after a 80/20 split we obtained two data sets "training_ds" used to build the model and "test_ds" used to test
# training_dsX is the NIR spectra matrix (samples vs. selected 959 wavenumbers)
# training_dsY is a matrix of [0,1] where 1 indicates the correct class

library(keras)
set.seed(1)
model_APCI<- keras_model_sequential()
model_APCI%>%
layer_dense(units = 960, activation = "relu", kernel_initializer = 'he_normal', input_shape = ncol(trainX_keras)) %>%
layer_dense(units = 480, activation = "relu") %>%
layer_dense(units = ncol(trainY_keras), activation = "softmax")

model_APCI %>% compile(optimizer = "adam",
loss = "categorical_crossentropy",
metric=c("accuracy"))

#print(model_APCI)

history<- model_APCI%>% fit(
trainX_keras,
trainY_keras,
epochs = 1000,
batch_size = 32,
validation_split= 0.2,
verbose = 0
)
```