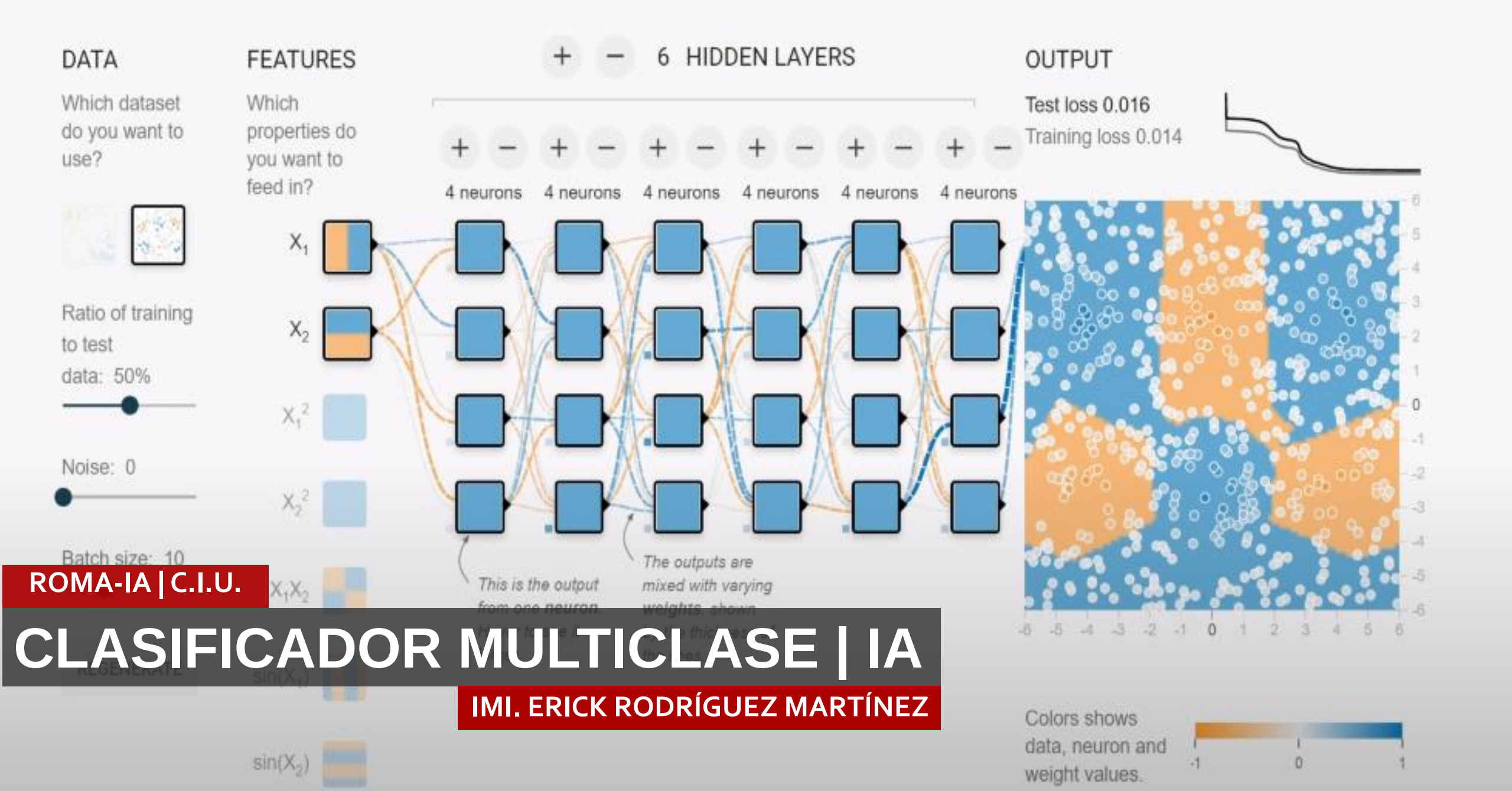


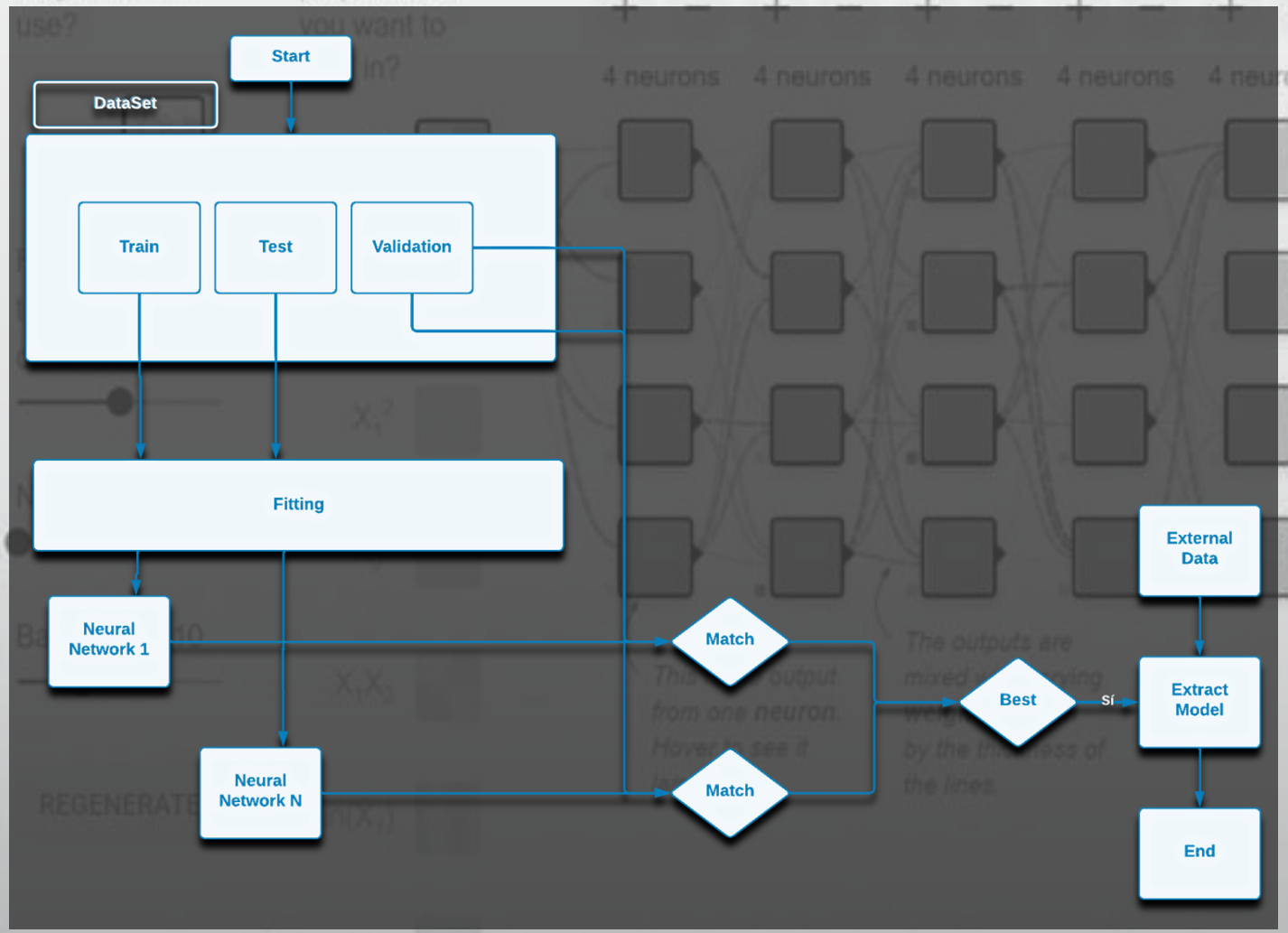
ROMA-IA | C.I.U.

CLASIFICADOR MULTICLASE | IA

IMI. ERICK RODRÍGUEZ MARTÍNEZ

CASO DE ESTUDIO

DISEASES IN THE BEAN PLANTS | MIT



CARACTERÍSTICAS DEL DATASET

TAMAÑO DE IMAGEN:	500X500 Pixeles
POBLACIÓN:	1034 Fotografías
CLASES:	3
CLASE 1-	305 [HEALTY]
CLASE 2-	410 [ANG.LEAF]
CLASE 3-	319 [B.ROUST]
ENVIRONMENT:	No Controlado
DISTANCIA A OBJ.:	No Controlado
B/W CONTROL:	Ajuste Auto

FITTING - PARÁMETROS

ROTACIÓN:	40 ° GRADOS
RESC-HORIZONTAL:	20%
RESC-VERTICAL:	20%
RESC-ZOOM:	20%
MODO DE RELLENO:	“NEAREST”
CANALES DE COLOR:	3
DROPOUT:	0.3

```
_________________________________________________________________
 Layer (type)                 Output Shape              Param #
=================================================================
 keras_layer (KerasLayer)     (None, 1280)              2257984

 dropout (Dropout)            (None, 1280)              0

 dense (Dense)                (None, 3)                 3843

=================================================================
Total params: 2,261,827
Trainable params: 3,843
Non-trainable params: 2,257,984
_________________________________________________________________
```

NEURAL NETWORKS

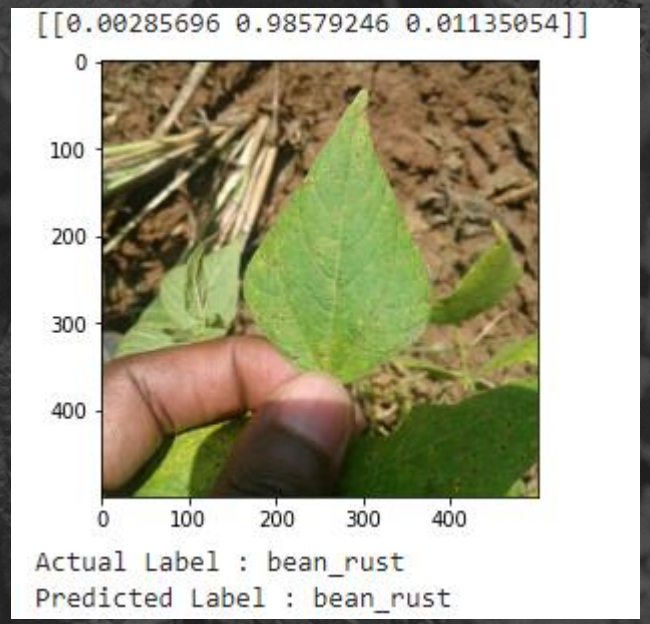
NO.MODELOS: 5
E.ENTRENAMIENTO: 10
RESULTADO: 94.58%

MODELOS: DENSO
CNN
AUTOML

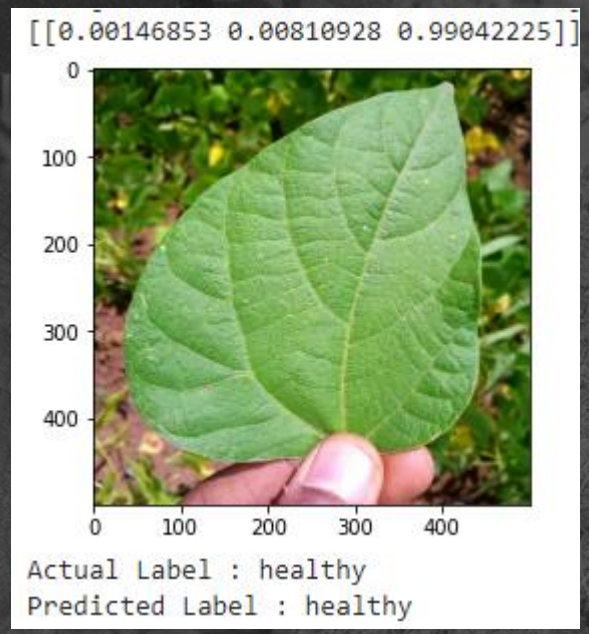
```
Trial 5 Complete [00h 00m 05s]
val_loss: 0.7016022801399231

Best val_loss So Far: 0.07963968068361282
Total elapsed time: 00h 22m 58s
INFO:tensorflow:Oracle triggered exit
Epoch 1/10
43/43 [==============================] - 1s 19ms/step - loss: 1.9424 - accuracy: 0.3794
Epoch 2/10
43/43 [==============================] - 0s 4ms/step - loss: 1.0619 - accuracy: 0.7068
Epoch 3/10
43/43 [==============================] - 0s 3ms/step - loss: 0.6156 - accuracy: 0.8137
Epoch 4/10
43/43 [==============================] - 0s 4ms/step - loss: 0.4855 - accuracy: 0.8456
Epoch 5/10
43/43 [==============================] - 0s 4ms/step - loss: 0.3590 - accuracy: 0.9013
Epoch 6/10
43/43 [==============================] - 0s 4ms/step - loss: 0.3261 - accuracy: 0.9042
Epoch 7/10
43/43 [==============================] - 0s 4ms/step - loss: 0.2755 - accuracy: 0.9131
Epoch 8/10
43/43 [==============================] - 0s 4ms/step - loss: 0.2196 - accuracy: 0.9324
Epoch 9/10
43/43 [==============================] - 0s 4ms/step - loss: 0.1821 - accuracy: 0.9480
Epoch 10/10
43/43 [==============================] - 0s 4ms/step - loss: 0.1862 - accuracy: 0.9458
INFO:tensorflow:Assets written to: ./image_classifier/best_model/assets
```

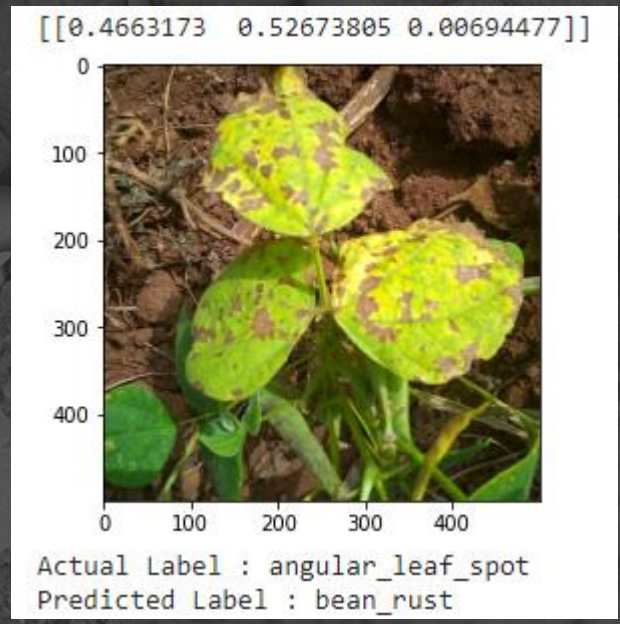
RESULTADOS



0% Angular Leaf
98.5 % Bean Roust
0% Healthy



0% Angular Leaf
0 % Bean Roust
99% Healthy



46% Angular Leaf
52 % Bean Roust
0% Healthy

APP-CLASIFICADOR

MONITOREO EN TIEMPO REAL CON APLICACIÓN-IA WEB Y MOBIL

ROMA-IA | C.I.U.

CLASIFICADOR MULTICLASE | IA

IMI. ERICK RODRÍGUEZ MARTÍNEZ

M.C MARCO A. RODRÍGUEZ MARTÍNEZ

¡GRACIAS!