Python 3.6.7 (v3.6.7:6ec5cf24b7, Oct 20 2018, 13:35:33) [MSC v.1900 64 bit (AMD64)]

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IPython 7.1.0 -- An enhanced Interactive Python.

Reiniciando el núcleo...

runfile('D:/ALEJANDRO/DOCTORADO/ProyectoTD/emv/ClasifMod\_IdVar V2.py', wdir='D:/ALEJANDRO/DOCTORADO/ProyectoTD/emv')

Using TensorFlow backend.

Modelos Cantidad

Otto 15

Rankine 12

Diesel 11

Joule 10

Name: modelos, dtype: int64

Train size: 43

Test size: 5

encoder.transform

y\_train shape: (43,)

y\_test shape: (5,)

y\_train: [0 1 2 3 2 0 1 2 0 1 2 2 2 2 2 2 2 2 2 2 2 0 0 0 0 0 0 0 0 1 1 1 1 1 1 1 3

3 3 3 3 3 3]

y\_test: [3 3 3 3 2]

Dimensiones de los datos de entrenamiento y prueba

x\_train shape: (43, 60)

x\_test shape: (5, 60)

y\_train shape: (43, 4)

y\_test shape: (5, 4)

y\_train : [[1. 0. 0. 0.]

[0. 1. 0. 0.]

[0. 0. 1. 0.]

[0. 0. 0. 1.]

[0. 0. 1. 0.]

[1. 0. 0. 0.]

[0. 1. 0. 0.]

[0. 0. 1. 0.]

[1. 0. 0. 0.]

[0. 1. 0. 0.]

[0. 0. 1. 0.]

[0. 0. 1. 0.]

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[0. 0. 1. 0.]

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[1. 0. 0. 0.]

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[1. 0. 0. 0.]

[1. 0. 0. 0.]

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[0. 1. 0. 0.]

[0. 1. 0. 0.]

[0. 1. 0. 0.]

[0. 1. 0. 0.]

[0. 1. 0. 0.]

[0. 0. 0. 1.]

[0. 0. 0. 1.]

[0. 0. 0. 1.]

[0. 0. 0. 1.]

[0. 0. 0. 1.]

[0. 0. 0. 1.]

[0. 0. 0. 1.]]

y\_test : [[0. 0. 0. 1.]

[0. 0. 0. 1.]

[0. 0. 0. 1.]

[0. 0. 0. 1.]

[0. 0. 1. 0.]]

Creando la Red...

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Layer (type) Output Shape Param #

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dense\_1 (Dense) (None, 256) 15616

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activation\_1 (Activation) (None, 256) 0

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dropout\_1 (Dropout) (None, 256) 0

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dense\_2 (Dense) (None, 4) 1028

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activation\_2 (Activation) (None, 4) 0

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Total params: 16,644

Trainable params: 16,644

Non-trainable params: 0

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Train on 38 samples, validate on 5 samples

Epoch 1/8

38/38 [==============================] - 0s 5ms/step - loss: 1.3458 - acc: 0.3421 - val\_loss: 1.4727 - val\_acc: 0.0000e+00

Epoch 2/8

38/38 [==============================] - 0s 658us/step - loss: 0.9753 - acc: 0.6053 - val\_loss: 1.6329 - val\_acc: 0.0000e+00

Epoch 3/8

38/38 [==============================] - 0s 605us/step - loss: 0.7318 - acc: 0.7105 - val\_loss: 1.4986 - val\_acc: 0.0000e+00

Epoch 4/8

38/38 [==============================] - 0s 816us/step - loss: 0.6232 - acc: 0.8684 - val\_loss: 1.3437 - val\_acc: 0.0000e+00

Epoch 5/8

38/38 [==============================] - 0s 737us/step - loss: 0.4699 - acc: 0.9474 - val\_loss: 1.1872 - val\_acc: 0.2000

Epoch 6/8

38/38 [==============================] - 0s 579us/step - loss: 0.3819 - acc: 0.9474 - val\_loss: 1.0121 - val\_acc: 0.8000

Epoch 7/8

38/38 [==============================] - 0s 684us/step - loss: 0.3155 - acc: 0.9474 - val\_loss: 0.8227 - val\_acc: 0.8000

Epoch 8/8

38/38 [==============================] - 0s 737us/step - loss: 0.2725 - acc: 0.9737 - val\_loss: 0.5977 - val\_acc: 0.8000

5/5 [==============================] - 0s 800us/step

Hyperparameters: {'n\_dense': 1, 'dense\_units': 256, 'activation': 'relu', 'dropout': <class 'keras.layers.core.Dropout'>, 'dropout\_rate': 0.5, 'kernel\_initializer': 'glorot\_uniform', 'optimizer': 'adam'}

Test score: 0.8917851328849793

Test accuracy: 0.600000011920929

0 ciclo rankine ideal produce 150 mw potencia neta u ...

Actual modelo:Rankine

Predicted modelo: Rankine

listo

1 ciclo rankine unidad potencia vapor agua circula f ...

Actual modelo:Rankine

Predicted modelo: Rankine

listo

2 ciclo rankine utiliza energía solar fuente térmica ...

Actual modelo:Rankine

Predicted modelo: Joule

listo

3 ciclo rankine utiliza pequeño acumulador energía s ...

Actual modelo:Rankine

Predicted modelo: Joule

listo

4 ciclo otto, relación compresión 7.5, funciona part ...

Actual modelo:Otto

Predicted modelo: Otto

listo

D:\ALEJANDRO\DOCTORADO\ProyectoTD\emv\librerias\lib\_ClasifMod.py:87: RuntimeWarning: invalid value encountered in true\_divide

cm = cm.astype('float') / cm.sum(axis=1)[:, np.newaxis]



