

# Predicción de NMIST

El presente documento es para presentar las corridas del código:

```
python3.12 handwriting.py model.h5
```

loaded data

Imagen guardada en dataset\_visualization.png

/Library/Frameworks/Python.framework/Versions/3.12/lib/python3.12/site-

packages/keras/src/layers/convolutional/base\_conv.py:107: UserWarning: Do not pass an  
`input\_shape` / `input\_dim` argument to a layer. When using Sequential models, prefer  
using an `Input(shape)` object as the first layer in the model instead.

```
super().__init__(activity_regularizer=activity_regularizer, **kwargs)
```

Epoch 1/10

1875/1875 ————— 6s 3ms/step - accuracy: 0.8608 -  
loss: 0.4498

Epoch 2/10

1875/1875 ————— 6s 3ms/step - accuracy: 0.9667 -  
loss: 0.1096

Epoch 3/10

1875/1875 ————— 6s 3ms/step - accuracy: 0.9760 -  
loss: 0.0773

Epoch 4/10

1875/1875 ————— 6s 3ms/step - accuracy: 0.9810 -  
loss: 0.0630

Epoch 5/10

1875/1875 ————— 6s 3ms/step - accuracy: 0.9839 -  
loss: 0.0512

Epoch 6/10

1875/1875 ————— 6s 3ms/step - accuracy: 0.9849 -  
loss: 0.0462

Epoch 7/10

1875/1875 ————— 6s 3ms/step - accuracy: 0.9869 -  
loss: 0.0381

Epoch 8/10

1875/1875 ————— 6s 3ms/step - accuracy: 0.9884 -  
loss: 0.0350

Epoch 9/10

1875/1875 ————— 6s 3ms/step - accuracy: 0.9897 -  
loss: 0.0305

Epoch 10/10

1875/1875 ————— 6s 3ms/step - accuracy: 0.9911 -  
loss: 0.0261

trained model

313/313 - 0s - 898us/step - accuracy: 0.9895 - loss: 0.0391

313/313 ————— 0s 777us/step

Imagen guardada en confusion\_matrix.png

WARNING:absl:You are saving your model as an HDF5 file via `model.save()` or  
`keras.saving.save\_model(model)`. This file format is considered legacy. We recommend  
using instead the native Keras format, e.g. `model.save('my\_model.keras')` or  
`keras.saving.save\_model(model, 'my\_model.keras')`.

Model saved to model.h5.

python3.12 recognition.py model.h5

pygame 2.6.0 (SDL 2.28.4, Python 3.12.3)

Hello from the pygame community. <https://www.pygame.org/contribute.html>

WARNING:absl:Compiled the loaded model, but the compiled metrics have yet to be built.  
`model.compile\_metrics` will be empty until you train or evaluate the model.

2024-09-09 20:01:14.913 Python[6620:180197] WARNING: Secure coding is not enabled  
for restorable state! Enable secure coding by implementing

NSApplicationDelegate.applicationSupportsSecureRestorableState: and returning YES.

1/1 ————— 0s 19ms/step

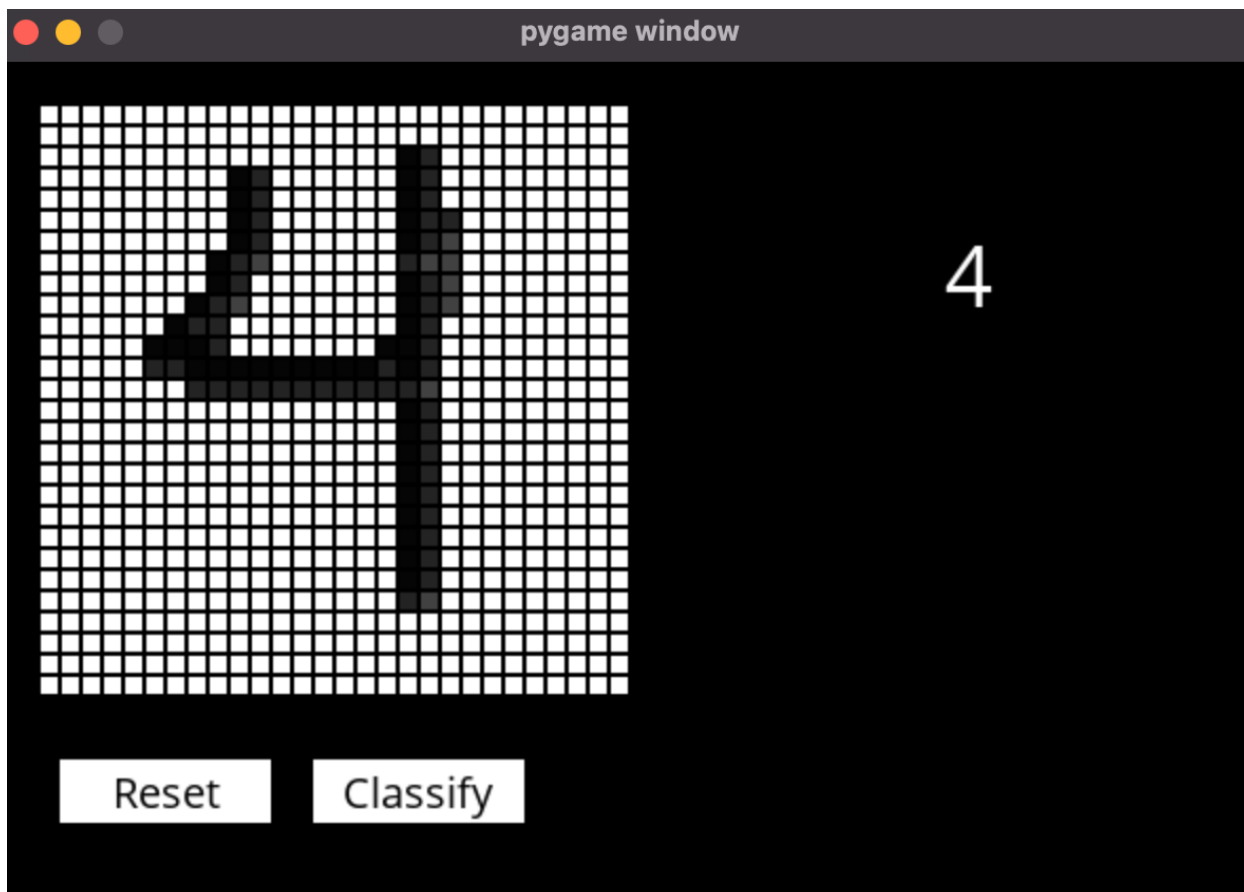
1/1 ————— 0s 6ms/step

1/1 ————— 0s 6ms/step

1/1 ————— 0s 6ms/step

1/1 ————— 0s 6ms/step

1/1 ————— 0s 6ms/step



7	2	1	0	4	1	4	9	5	9
0	6	9	0	1	5	9	7	3	4
9	6	6	5	4	0	7	4	0	1
3	1	3	4	7	2	7	1	2	1
1	7	4	2	3	5	1	2	4	4
6	3	5	5	6	0	4	1	9	5
7	8	9	3	7	4	6	4	3	0
7	0	2	9	1	7	3	2	9	7
7	6	2	7	8	4	7	3	6	1
3	6	9	3	1	4	1	7	6	9

