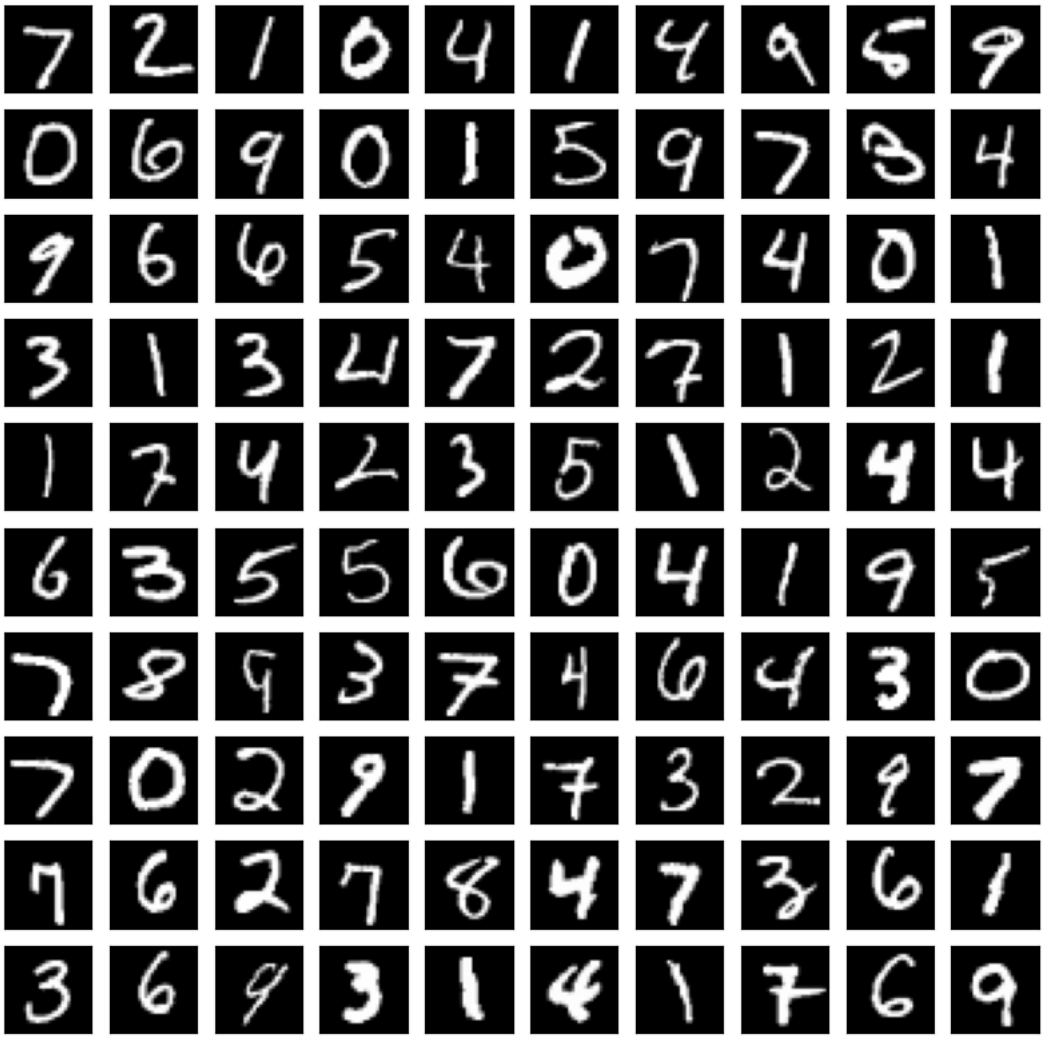
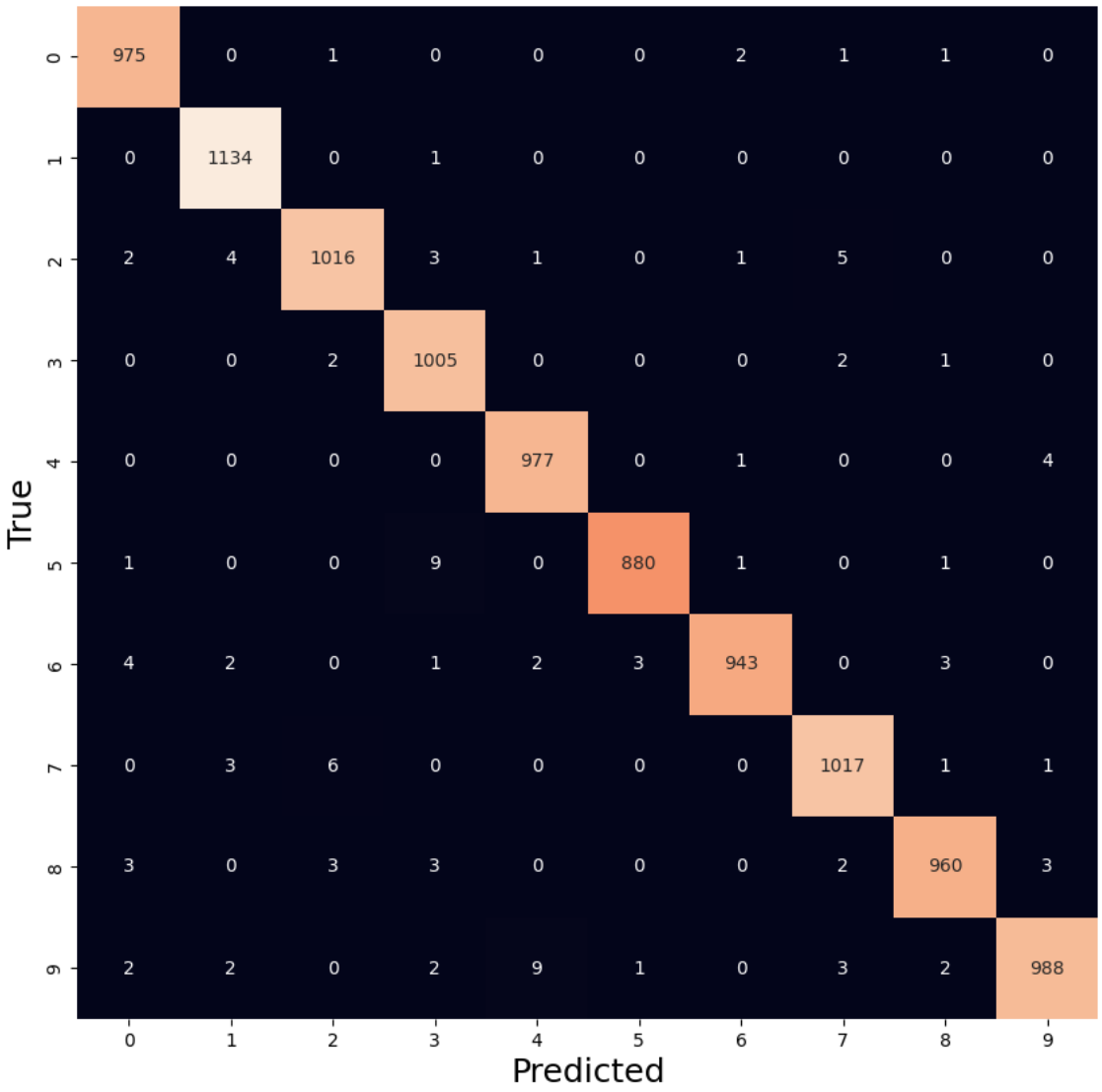
Predicción de NMIST

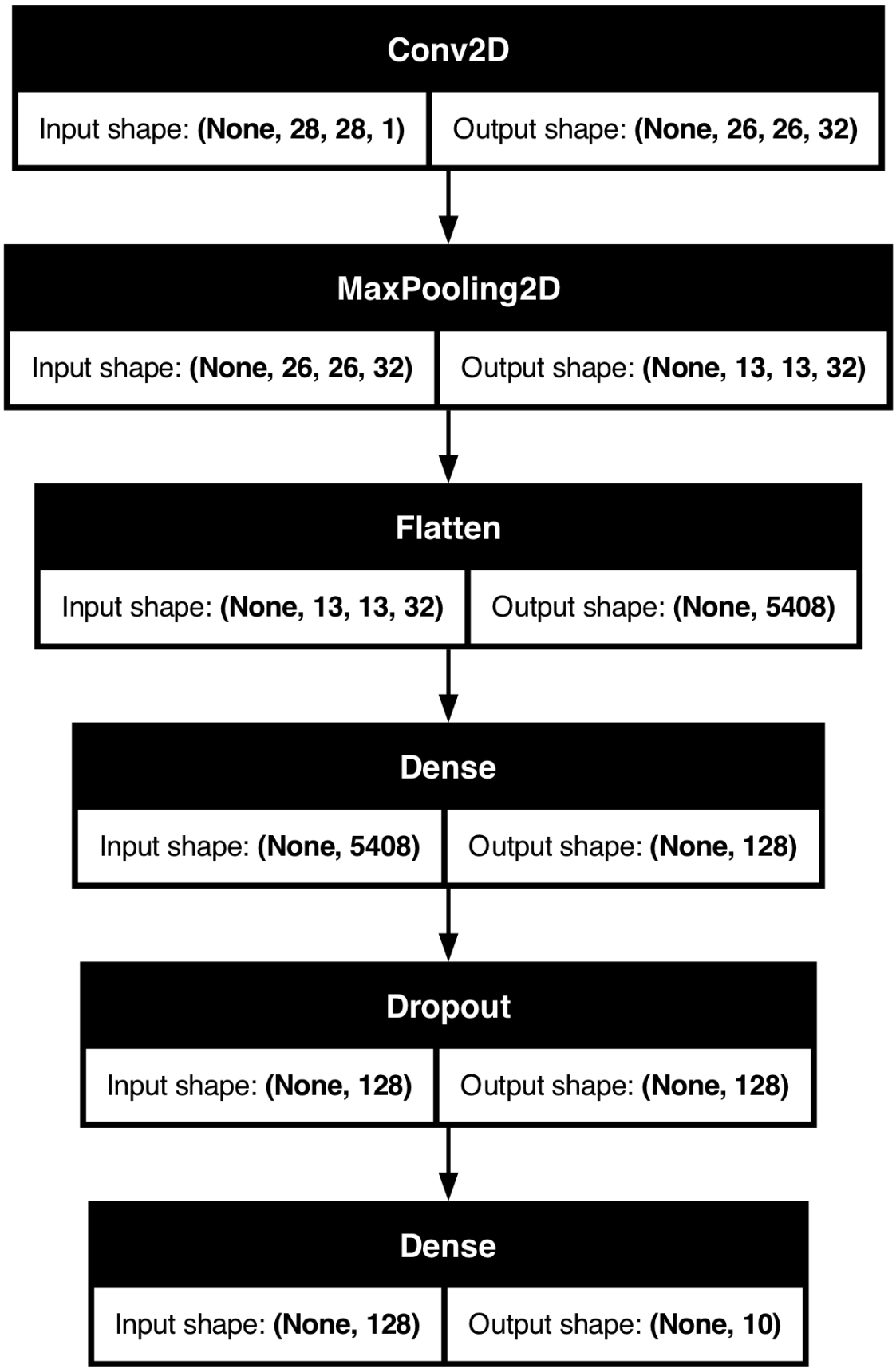
El presente documento es para presentar las corridas del código:

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.




True
Predicted
0 1 2 3 4 5 6 7 8 9
0 975 0 1 0 0 0 2 1 1 0
1 0 1134 0 1 0 0 0 0 0 0
2 2 4 1016 3 1 0 1 5 0 0
3 0 0 2 1005 0 0 0 2 1 0
4 0 0 0 0 977 0 1 0 0 4
5 1 0 0 9 0 880 1 0 1 0
6 4 2 0 1 2 3 943 0 3 0
7 0 3 6 0 0 0 0 1017 1 1
8 3 0 3 3 0 0 0 2 960 3
9 2 2 0 2 9 1 0 3 2 988


Conv2D
Input shape: (None, 28, 28, 1)
Output shape: (None, 26, 26, 32)
MaxPooling2D
Input shape: (None, 26, 26, 32)
Output shape: (None, 13, 13, 32)
Flatten
Input shape: (None, 13, 13, 32)
Output shape: (None, 5408)
Dense
Input shape: (None, 5408)
Output shape: (None, 128)
Dropout
Input shape: (None, 128)
Output shape: (None, 128)
Dense
Input shape: (None, 128)
Output shape: (None, 10)