

Recognizing handwritten digits with deep learning for smarter AI applications

Googlecolab Output



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DiskDownloading data from <https://storage.googleapis.com/tensorflow/tf-keras-datasets/mnist.npz>

11490434/11490434 0s 0us/step

```
/usr/local/lib/python3.11/dist-packages/keras/src/layers/convolutional/base_conv.py:107: UserWarning: Do not pass an argument to the constructor that overrides the value of the 'activity_regularizer' attribute.
  super().__init__(activity_regularizer=activity_regularizer, **kwargs)
```

Epoch 1/5

1688/1688 55s 31ms/step - accuracy: 0.8938 - loss: 0.3474 - val_accuracy: 0.9818 - val_loss: 0

Epoch 2/5

1688/1688 84s 32ms/step - accuracy: 0.9838 - loss: 0.0518 - val_accuracy: 0.9880 - val_loss: 0

Epoch 3/5

1688/1688 79s 31ms/step - accuracy: 0.9886 - loss: 0.0342 - val_accuracy: 0.9887 - val_loss: 0

Epoch 4/5

1688/1688 52s 30ms/step - accuracy: 0.9927 - loss: 0.0234 - val_accuracy: 0.9893 - val_loss: 0

Epoch 5/5

1688/1688 83s 31ms/step - accuracy: 0.9938 - loss: 0.0188 - val_accuracy: 0.9915 - val_loss: 0

313/313 3s 9ms/step - accuracy: 0.9876 - loss: 0.0352

Test accuracy: 0.99

1/1 0s 110ms/step

Predicted digit: 7

Predicted: 7





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```
print("Predicted digit:", np.argmax(prediction))
```

Show the image

```
plt.imshow(x_test[0].reshape(28,28), cmap='gray')
```

```
plt.title(f"Predicted: {np.argmax(prediction)}")
```

```
plt.axis('off')
```

```
plt.show()
```



```
!./mnist.npz
```



```
py:107: UserWarning: Do not pass an `input_shape`/`input_dim` argument to a layer. When using Sequential models, pre
```



```
val_accuracy: 0.9818 - val_loss: 0.0620
```

```
val_accuracy: 0.9880 - val_loss: 0.0380
```

```
val_accuracy: 0.9887 - val_loss: 0.0423
```

```
val_accuracy: 0.9893 - val_loss: 0.0372
```

```
val_accuracy: 0.9915 - val_loss: 0.0328
```





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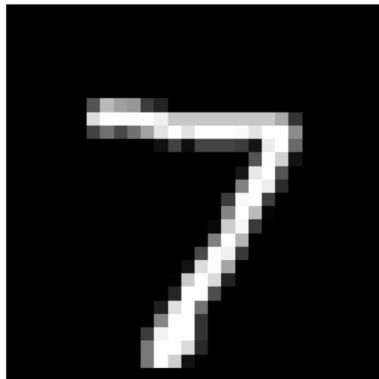
Test accuracy: 0.99

1/1 0s 110ms/step

Predicted digit: 7



Predicted: 7

{ Start coding or [generate](#) with AI.

Connected to Python 3 Google Compute Engine backend

