Generate | Recognizing Handwritten Digits | Close

1 of 1 | Use code with caution


```
# prompt: Recognizing Handwritten Digits

import tensorflow as tf

# Load the MNIST dataset
mnist = tf.keras.datasets.mnist
(x_train, y_train), (x_test, y_test) = mnist.load_data()

# Normalize pixel values to be between 0 and 1
x_train, x_test = x_train / 255.0, x_test / 255.0

# Define the model
model = tf.keras.models.Sequential([
  tf.keras.layers.Flatten(input_shape=(28, 28)),
  tf.keras.layers.Dense(128, activation='relu'),
  tf.keras.layers.Dropout(0.2),
  tf.keras.layers.Dense(10)
])

# Compile the model
loss_fn = tf.keras.losses.SparseCategoricalCrossentropy(from_logits=True)
model.compile(optimizer='adam',
              loss=loss_fn,
              metrics=['accuracy'])

# Train the model
model.fit(x_train, y_train, epochs=5)

# Evaluate the model
model.evaluate(x_test,  y_test, verbose=2)

# Make predictions (example)
probability_model = tf.keras.Sequential([
  model,
  tf.keras.layers.Softmax()
])
predictions = probability_model.predict(x_test)
```

```
Epoch 1/5
1875/1875 ━━━━━━━━━━━━━━━━━━━━ 13s 7ms/step - accuracy: 0.8552 - loss: 0.4939
Epoch 2/5
1875/1875 ━━━━━━━━━━━━━━━━━━━━ 9s 5ms/step - accuracy: 0.9541 - loss: 0.1541
Epoch 3/5
 388/1875 ━━━━━━━━━━━━━━━━━━━━ 6s 4ms/step - accuracy: 0.9656 - loss: 0.1167
```