初學者的 TensorFlow 2.0 教程

下載並安裝 TensorFlow 2.0 測試版包。將 TensorFlow 載入你的程式：

In [2]:

```
# 安裝 TensorFlow

import tensorflow as tf
```

載入並準備好MNIST 資料集 (http://yann.lecun.com/exdb/mnist/)。將樣本從整數轉換為浮點數：

In [3]:

```
mnist = tf.keras.datasets.mnist

(x_train, y_train), (x_test, y_test) = mnist.load_data()
x_train, x_test = x_train / 255.0, x_test / 255.0
```

將模型的各層堆疊起來，以搭建 `tf.keras.Sequential` 模型。為訓練選擇優化器和損失函數：

In [4]:

```
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, activation='softmax')
])

model.compile(optimizer='adam',
              loss='sparse_categorical_crossentropy',
              metrics=['accuracy'])
```

訓練並驗證模型：

In [5]:

```
model.fit(x_train, y_train, epochs=5)

model.evaluate(x_test,  y_test, verbose=2)
```

```
Epoch 1/5
1875/1875 [==============================] - 3s 2ms/step - loss: 0.2962 - ac
curacy: 0.9155
Epoch 2/5
1875/1875 [==============================] - 3s 2ms/step - loss: 0.1420 - ac
curacy: 0.9581
Epoch 3/5
1875/1875 [==============================] - 3s 2ms/step - loss: 0.1064 - ac
curacy: 0.9672
Epoch 4/5
1875/1875 [==============================] - 3s 2ms/step - loss: 0.0885 - ac
curacy: 0.9730
Epoch 5/5
1875/1875 [==============================] - 3s 2ms/step - loss: 0.0749 - ac
curacy: 0.9765
313/313 - 0s - loss: 0.0748 - accuracy: 0.9778
```

Out[1]:

```
[0.07484959065914154, 0.9778000116348267]
```

現在，這個照片分類器的準確度已經達到 98%