**CNN log 紀錄**

**執行train\_model 時**

**PS D:\PaddleOCR-main> & D:/anaconda/envs/OCREAS\_env/python.exe d:/PaddleOCR-main/train\_model.py 2024-07-29 17:24:10.870490: I tensorflow/core/util/port.cc:153] oneDNN custom operations are on. You may see slightly different numerical results due to floating-point round-off errors from different computation orders. To turn them off, set the environment variable TF\_ENABLE\_ONEDNN\_OPTS=0. 2024-07-29 17:24:11.599865: I tensorflow/core/util/port.cc:153] oneDNN custom operations are on. You may see slightly different numerical results due to floating-point round-off errors from different computation orders. To turn them off, set the environment variable TF\_ENABLE\_ONEDNN\_OPTS=0. D:\anaconda\envs\OCREAS\_env\lib\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) 2024-07-29 17:24:14.906731: I tensorflow/core/platform/cpu\_feature\_guard.cc:210] This TensorFlow binary is optimized to use available CPU instructions in performance-critical operations. To enable the following instructions: AVX2 AVX512F AVX512\_VNNI FMA, in other operations, rebuild TensorFlow with the appropriate compiler flags. Traceback (most recent call last): File "d:\PaddleOCR-main\train\_model.py", line 322, in <module> model.fit(datagen.flow(images, y, batch\_size=32), epochs=10, validation\_split=0.2) File "D:\anaconda\envs\OCREAS\_env\lib\site-packages\keras\src\utils\traceback\_utils.py", line 122, in error\_handler raise e.with\_traceback(filtered\_tb) from None File "D:\anaconda\envs\OCREAS\_env\lib\site-packages\keras\src\trainers\data\_adapters\array\_slicing.py", line 472, in train\_validation\_split raise ValueError( ValueError: Argument validation\_split is only supported for tensors or NumPy arrays.Found incompatible type in the input: [<class 'keras.src.legacy.preprocessing.image.NumpyArrayIterator'>] PS D:\PaddleOCR-main>**

**這個錯誤是由於 ImageDataGenerator 生成器不支持 validation\_split 參數引起的。您可以手動將數據分為訓練集和驗證集來解決這個問題。**

**執行 結果 PS D:\PaddleOCR-main> & D:/anaconda/envs/OCREAS\_env/python.exe d:/PaddleOCR-main/train\_model.py 2024-07-29 17:29:45.382015: I tensorflow/core/util/port.cc:153] oneDNN custom operations are on. You may see slightly different numerical results due to floating-point round-off errors from different computation orders. To turn them off, set the environment variable TF\_ENABLE\_ONEDNN\_OPTS=0. 2024-07-29 17:29:46.037773: I tensorflow/core/util/port.cc:153] oneDNN custom operations are on. You may see slightly different numerical results due to floating-point round-off errors from different computation orders. To turn them off, set the environment variable TF\_ENABLE\_ONEDNN\_OPTS=0. D:\anaconda\envs\OCREAS\_env\lib\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) 2024-07-29 17:29:49.911516: I tensorflow/core/platform/cpu\_feature\_guard.cc:210] This TensorFlow binary is optimized to use available CPU instructions in performance-critical operations. To enable the following instructions: AVX2 AVX512F AVX512\_VNNI FMA, in other operations, rebuild TensorFlow with the appropriate compiler flags. Epoch 1/10 Traceback (most recent call last): File "d:\PaddleOCR-main\train\_model.py", line 325, in <module> model.fit(datagen.flow(x\_train, y\_train, batch\_size=32), epochs=10, validation\_data=(x\_val, y\_val)) File "D:\anaconda\envs\OCREAS\_env\lib\site-packages\keras\src\utils\traceback\_utils.py", line 122, in error\_handler raise e.with\_traceback(filtered\_tb) from None File "D:\anaconda\envs\OCREAS\_env\lib\site-packages\keras\src\layers\input\_spec.py", line 227, in assert\_input\_compatibility raise ValueError( ValueError: Exception encountered when calling Sequential.call(). Input 0 of layer "conv2d" is incompatible with the layer: expected axis -1 of input shape to have value 1, but received input with shape (None, 64, 64, 3) Arguments received by Sequential.call(): • inputs=tf.Tensor(shape=(None, 64, 64, 3), dtype=float32) • training=True • mask=None**

這個錯誤表明，您的輸入圖像是彩色的 (RGB)，而您的模型期望的是單通道的灰度圖像。您需要將圖像轉換為灰度圖像

File "d:\PaddleOCR-main\train\_model.py", line 325, in <module>

PS D:\PaddleOCR-main>

PS D:\PaddleOCR-main> & D:/anaconda/envs/OCREAS\_env/python.exe d:/PaddleOCR-main/train\_model.py

2024-07-29 17:32:27.471203: I tensorflow/core/util/port.cc:153] oneDNN custom operations are on. You may see slightly different numerical results due to floating-point round-off errors from different computation orders. To turn them off, set the environment variable `TF\_ENABLE\_ONEDNN\_OPTS=0`.

2024-07-29 17:32:28.139700: I tensorflow/core/util/port.cc:153] oneDNN custom operations are on. You may see slightly different numerical results due to floating-point round-off errors from different computation orders. To turn them off, set the environment variable `TF\_ENABLE\_ONEDNN\_OPTS=0`.

D:\anaconda\envs\OCREAS\_env\lib\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)

2024-07-29 17:32:31.180595: I tensorflow/core/platform/cpu\_feature\_guard.cc:210] This TensorFlow binary is optimized to use available CPU instructions in performance-critical operations.

To enable the following instructions: AVX2 AVX512F AVX512\_VNNI FMA, in other operations, rebuild TensorFlow with the appropriate compiler flags.

Epoch 1/10

D:\anaconda\envs\OCREAS\_env\lib\site-packages\keras\src\trainers\data\_adapters\py\_dataset\_adapter.py:121: UserWarning: Your `PyDataset` class should call `super().\_\_init\_\_(\*\*kwargs)` in its constructor. `\*\*kwargs` can include `workers`, `use\_multiprocessing`, `max\_queue\_size`. Do not pass these arguments to `fit()`, as they will be ignored.

self.\_warn\_if\_super\_not\_called()

7/7 ━━━━━━━━━━━━━━━━━━━━ 2s 63ms/step - accuracy: 0.5582 - loss: 293.0939 - val\_accuracy: 0.5800 - val\_loss: 0.7981

Epoch 2/10

7/7 ━━━━━━━━━━━━━━━━━━━━ 0s 34ms/step - accuracy: 0.5364 - loss: 3.9774 - val\_accuracy: 0.4600 - val\_loss: 1.6677

Epoch 3/10

7/7 ━━━━━━━━━━━━━━━━━━━━ 0s 34ms/step - accuracy: 0.4576 - loss: 2.0515 - val\_accuracy: 0.5400 - val\_loss: 1.1278

Epoch 4/10

7/7 ━━━━━━━━━━━━━━━━━━━━ 0s 33ms/step - accuracy: 0.6340 - loss: 1.0117 - val\_accuracy: 0.5400 - val\_loss: 1.0139

Epoch 5/10

7/7 ━━━━━━━━━━━━━━━━━━━━ 0s 33ms/step - accuracy: 0.6260 - loss: 1.0152 - val\_accuracy: 0.4600 - val\_loss: 2.2902

Epoch 6/10

7/7 ━━━━━━━━━━━━━━━━━━━━ 0s 32ms/step - accuracy: 0.4564 - loss: 1.8914 - val\_accuracy: 0.4400 - val\_loss: 0.8007

Epoch 7/10

7/7 ━━━━━━━━━━━━━━━━━━━━ 0s 37ms/step - accuracy: 0.4917 - loss: 1.2372 - val\_accuracy: 0.5400 - val\_loss: 0.9198

Epoch 8/10

7/7 ━━━━━━━━━━━━━━━━━━━━ 0s 32ms/step - accuracy: 0.4739 - loss: 1.0209 - val\_accuracy: 0.5400 - val\_loss: 1.4131

Epoch 9/10

7/7 ━━━━━━━━━━━━━━━━━━━━ 0s 31ms/step - accuracy: 0.5032 - loss: 1.0840 - val\_accuracy: 0.5400 - val\_loss: 1.0073

Epoch 10/10

7/7 ━━━━━━━━━━━━━━━━━━━━ 0s 34ms/step - accuracy: 0.5890 - loss: 0.7339 - val\_accuracy: 0.5400 - val\_loss: 1.1378

一張含有 文字, 螢幕擷取畫面, 字型 的圖片

自動產生的描述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')`.

看起來模型已經成功訓練並保存了，但準確率和損失值並不理想。這可能是由於數據集不足或模型的複雜度不夠。以下是一些可能的改進建議：

1. **數據增強**：嘗試更多的數據增強技術，如旋轉、平移、縮放和剪裁等。
2. **模型調整**：增加或減少卷積層的數量，調整每層的濾波器數量。
3. **更多數據**：如果可能，增加更多的標示框和表單樣本。

優化後

D:\anaconda\envs\OCREAS\_env\lib\site-packages\keras\src\trainers\data\_adapters\py\_dataset\_adapter.py:121: UserWarning: Your `PyDataset` class should call `super().\_\_init\_\_(\*\*kwargs)` in its constructor. `\*\*kwargs` can include `workers`, `use\_multiprocessing`, `max\_queue\_size`. Do not pass these arguments to `fit()`, as they will be ignored.

self.\_warn\_if\_super\_not\_called()

7/7 ━━━━━━━━━━━━━━━━━━━━ 2s 69ms/step - accuracy: 0.4651 - loss: 16.3818 - val\_accuracy: 0.4200 - val\_loss: 0.7787

Epoch 2/20

7/7 ━━━━━━━━━━━━━━━━━━━━ 0s 46ms/step - accuracy: 0.4560 - loss: 1.8701 - val\_accuracy: 0.5400 - val\_loss: 1.2208

Epoch 3/20

7/7 ━━━━━━━━━━━━━━━━━━━━ 0s 44ms/step - accuracy: 0.5110 - loss: 1.0865 - val\_accuracy: 0.5400 - val\_loss: 0.8434

Epoch 4/20

7/7 ━━━━━━━━━━━━━━━━━━━━ 0s 34ms/step - accuracy: 0.5598 - loss: 0.8013 - val\_accuracy: 0.4400 - val\_loss: 0.7263

Epoch 5/20

7/7 ━━━━━━━━━━━━━━━━━━━━ 0s 32ms/step - accuracy: 0.4915 - loss: 0.7892 - val\_accuracy: 0.5400 - val\_loss: 0.7035

Epoch 6/20

7/7 ━━━━━━━━━━━━━━━━━━━━ 0s 32ms/step - accuracy: 0.5750 - loss: 0.6694 - val\_accuracy: 0.5600 - val\_loss: 0.6963

Epoch 7/20

7/7 ━━━━━━━━━━━━━━━━━━━━ 0s 30ms/step - accuracy: 0.5985 - loss: 0.6828 - val\_accuracy: 0.5400 - val\_loss: 0.7129

Epoch 8/20

7/7 ━━━━━━━━━━━━━━━━━━━━ 0s 31ms/step - accuracy: 0.6235 - loss: 0.6818 - val\_accuracy: 0.5400 - val\_loss: 0.7459

Epoch 9/20

7/7 ━━━━━━━━━━━━━━━━━━━━ 0s 30ms/step - accuracy: 0.6124 - loss: 0.6949 - val\_accuracy: 0.5400 - val\_loss: 0.7645

Epoch 10/20

7/7 ━━━━━━━━━━━━━━━━━━━━ 0s 30ms/step - accuracy: 0.6474 - loss: 0.7068 - val\_accuracy: 0.5200 - val\_loss: 0.7153

Epoch 11/20

7/7 ━━━━━━━━━━━━━━━━━━━━ 0s 33ms/step - accuracy: 0.6682 - loss: 0.6608 - val\_accuracy: 0.5200 - val\_loss: 0.7335

Epoch 12/20

7/7 ━━━━━━━━━━━━━━━━━━━━ 0s 29ms/step - accuracy: 0.5717 - loss: 0.6829 - val\_accuracy: 0.4800 - val\_loss: 0.7229

Epoch 13/20

7/7 ━━━━━━━━━━━━━━━━━━━━ 0s 33ms/step - accuracy: 0.7055 - loss: 0.6488 - val\_accuracy: 0.4400 - val\_loss: 0.7249

Epoch 14/20

7/7 ━━━━━━━━━━━━━━━━━━━━ 0s 30ms/step - accuracy: 0.6349 - loss: 0.6505 - val\_accuracy: 0.5200 - val\_loss: 0.8077

Epoch 15/20

7/7 ━━━━━━━━━━━━━━━━━━━━ 0s 34ms/step - accuracy: 0.6146 - loss: 0.6650 - val\_accuracy: 0.5400 - val\_loss: 0.7149

Epoch 16/20

7/7 ━━━━━━━━━━━━━━━━━━━━ 0s 30ms/step - accuracy: 0.6356 - loss: 0.6635 - val\_accuracy: 0.5200 - val\_loss: 0.7182

Epoch 17/20

7/7 ━━━━━━━━━━━━━━━━━━━━ 0s 35ms/step - accuracy: 0.6172 - loss: 0.6602 - val\_accuracy: 0.5200 - val\_loss: 0.7252

Epoch 18/20

7/7 ━━━━━━━━━━━━━━━━━━━━ 0s 30ms/step - accuracy: 0.6197 - loss: 0.6697 - val\_accuracy: 0.5600 - val\_loss: 0.7286

Epoch 19/20

7/7 ━━━━━━━━━━━━━━━━━━━━ 0s 30ms/step - accuracy: 0.5703 - loss: 0.6946 - val\_accuracy: 0.5000 - val\_loss: 0.7189

Epoch 20/20

7/7 ━━━━━━━━━━━━━━━━━━━━ 0s 29ms/step - accuracy: 0.6543 - loss: 0.6270 - val\_accuracy: 0.5400 - val\_loss: 0.7282

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')`.

PS D:\PaddleOCR-main>

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自動產生的描述

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