```
D:\DeepFake\pythonProject1\.venv\Scripts\python.exe D:\DeepFake\pythonProject1\Main\main.py
2025-09-10 13:38:38.126962: 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`.
2025-09-10 13:38:41.348051: 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`.
Using TensorFlow 2.19.0
Config: {
  "model_name": "resnet50",
  "data_dir": "D:/DeepFake/pythonProject1/Frames/Celeb-df/Celeb-df 224 EX",
  "epochs": 20,
  "batch_size": 32,
  "seed": 42,
  "base_trainable_at": null,
  "warmup_epochs": 3,
  "learning_rate": 0.001,
  "fine_tune_lr": 0.0001,
  "use_class_weights": false,
  "mixed_precision": false,
  "output_dir": "D:/DeepFake/pythonProject1/Main/resnet50"
}
Found 56902 images belonging to 2 classes.
Found 12197 images belonging to 2 classes.
Found 12195 images belonging to 2 classes.
2025-09-10 13:38:52.581867: 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: SSE3 SSE4.1 SSE4.2 AVX AVX2 AVX_VNNI FMA, in other operations, rebuild TensorFlow with the appropriate compiler
```

```
23 flags.
24 D:\DeepFake\pythonProject1\.venv\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.
25   self._warn_if_super_not_called()
26 Epoch 1/3
27 1779/1779 ━━━━━━━━━━━━━━━━━━━━ 0s 2s/step - accuracy
   : 0.8930 - loss: 0.3774
28 Epoch 1: val_accuracy improved from -inf to 0.90391,
   saving model to D:/DeepFake/pythonProject1/Main/
   resnet50\best_warmup.keras
29 1779/1779 ━━━━━━━━━━━━━━━━━━━━ 3069s 2s/step -
   accuracy: 0.8930 - loss: 0.3774 - val_accuracy: 0.
   9039 - val_loss: 0.3563 - learning_rate: 0.0010
30 Epoch 2/3
31 1779/1779 ━━━━━━━━━━━━━━━━━━━━ 0s 895ms/step -
   accuracy: 0.8989 - loss: 0.3422
32 Epoch 2: val_accuracy improved from 0.90391 to 0.
   90399, saving model to D:/DeepFake/pythonProject1/
   Main/resnet50\best_warmup.keras
33 1779/1779 ━━━━━━━━━━━━━━━━━━━━ 1919s 1s/step -
   accuracy: 0.8989 - loss: 0.3422 - val_accuracy: 0.
   9040 - val_loss: 0.3283 - learning_rate: 0.0010
34 Epoch 3/3
35 1779/1779 ━━━━━━━━━━━━━━━━━━━━ 0s 959ms/step -
   accuracy: 0.8964 - loss: 0.3410
36 Epoch 3: val_accuracy did not improve from 0.90399
37 1779/1779 ━━━━━━━━━━━━━━━━━━━━ 2417s 1s/step -
   accuracy: 0.8964 - loss: 0.3410 - val_accuracy: 0.
   9012 - val_loss: 0.3143 - learning_rate: 0.0010
38 Saved final model to: D:/DeepFake/pythonProject1/Main
   /resnet50\resnet50.keras
39 Evaluating on test set...
40 382/382 ━━━━━━━━━━━━━━━━━━━━ 311s 814ms/step -
   accuracy: 0.6843 - loss: 0.9474
41 Test accuracy: 0.9041 | Test loss: 0.3302
42 382/382 ━━━━━━━━━━━━━━━━━━━━ 404s 1s/step
```

```
43
44 Classification Report:
45
46                   precision    recall  f1-score
   support
47
48      Celeb-real       0.57      0.01      0.02
   1172
49 Celeb-synthesis       0.90      1.00      0.95
   11023
50
51        accuracy                           0.90
   12195
52       macro avg       0.73      0.51      0.49
   12195
53    weighted avg       0.87      0.90      0.86
   12195
54
55 Confusion Matrix:
56  [[   13  1159]
57  [   10 11013]]
58
59 Process finished with exit code 0
60
```