Epoch 1/20

1682/1682 [==============================] - ETA: 0s - loss: 15.9363 - accuracy: 0.50042024-04-19 01:06:00.431205: W tensorflow/tsl/framework/cpu\_allocator\_impl.cc:83] Allocation of 10509312000 exceeds 10% of free system memory.

2024-04-19 01:06:04.996401: W tensorflow/tsl/framework/cpu\_allocator\_impl.cc:83] Allocation of 2463498240 exceeds 10% of free system memory.

1682/1682 [==============================] - 715s 424ms/step - loss: 15.9363 - accuracy: 0.5004 - val\_loss: 9.5373 - val\_accuracy: 0.5024 - lr: 1.0000e-05

Epoch 2/20

1682/1682 [==============================] - ETA: 0s - loss: 6.0752 - accuracy: 0.50002024-04-19 01:17:47.700802: W tensorflow/tsl/framework/cpu\_allocator\_impl.cc:83] Allocation of 10509312000 exceeds 10% of free system memory.

2024-04-19 01:17:51.783656: W tensorflow/tsl/framework/cpu\_allocator\_impl.cc:83] Allocation of 2463498240 exceeds 10% of free system memory.

1682/1682 [==============================] - 707s 420ms/step - loss: 6.0752 - accuracy: 0.5000 - val\_loss: 3.5580 - val\_accuracy: 0.4976 - lr: 1.0000e-05

Epoch 3/20

1682/1682 [==============================] - ETA: 0s - loss: 2.3201 - accuracy: 0.49972024-04-19 01:29:43.000749: W tensorflow/tsl/framework/cpu\_allocator\_impl.cc:83] Allocation of 10509312000 exceeds 10% of free system memory.

1682/1682 [==============================] - 715s 425ms/step - loss: 2.3201 - accuracy: 0.4997 - val\_loss: 1.4790 - val\_accuracy: 0.4976 - lr: 1.0000e-05

Epoch 4/20

1682/1682 [==============================] - 709s 421ms/step - loss: 1.1191 - accuracy: 0.5000 - val\_loss: 0.8854 - val\_accuracy: 0.4976 - lr: 1.0000e-05

Epoch 5/20

1682/1682 [==============================] - 719s 427ms/step - loss: 0.7906 - accuracy: 0.5005 - val\_loss: 0.7308 - val\_accuracy: 0.4976 - lr: 1.0000e-05

Epoch 6/20

1682/1682 [==============================] - 723s 430ms/step - loss: 0.7093 - accuracy: 0.5004 - val\_loss: 0.6971 - val\_accuracy: 0.4976 - lr: 1.0000e-05

Epoch 7/20

1682/1682 [==============================] - 719s 428ms/step - loss: 0.6943 - accuracy: 0.5005 - val\_loss: 0.6932 - val\_accuracy: 0.4976 - lr: 1.0000e-05

Epoch 8/20

1682/1682 [==============================] - 726s 432ms/step - loss: 0.6932 - accuracy: 0.5003 - val\_loss: 0.6932 - val\_accuracy: 0.4976 - lr: 1.0000e-05

Epoch 9/20

1682/1682 [==============================] - 721s 429ms/step - loss: 0.6931 - accuracy: 0.5006 - val\_loss: 0.6932 - val\_accuracy: 0.4976 - lr: 1.0000e-05

Epoch 10/20

1682/1682 [==============================] - 722s 429ms/step - loss: 0.6931 - accuracy: 0.5005 - val\_loss: 0.6932 - val\_accuracy: 0.4976 - lr: 1.0000e-05

Epoch 11/20

1682/1682 [==============================] - 720s 428ms/step - loss: 0.6931 - accuracy: 0.5005 - val\_loss: 0.6932 - val\_accuracy: 0.4976 - lr: 1.0000e-05

Epoch 12/20

1682/1682 [==============================] - ETA: 0s - loss: 0.6931 - accuracy: 0.5000

Epoch 12: ReduceLROnPlateau reducing learning rate to 5.999999848427251e-06.

1682/1682 [==============================] - 719s 428ms/step - loss: 0.6931 - accuracy: 0.5000 - val\_loss: 0.6932 - val\_accuracy: 0.4976 - lr: 1.0000e-05

Epoch 13/20

1682/1682 [==============================] - 725s 431ms/step - loss: 0.6931 - accuracy: 0.5004 - val\_loss: 0.6932 - val\_accuracy: 0.4976 - lr: 6.0000e-06

Epoch 14/20

1682/1682 [==============================] - 719s 428ms/step - loss: 0.6931 - accuracy: 0.5005 - val\_loss: 0.6932 - val\_accuracy: 0.4976 - lr: 6.0000e-06

Epoch 15/20

1682/1682 [==============================] - 716s 425ms/step - loss: 0.6931 - accuracy: 0.5005 - val\_loss: 0.6932 - val\_accuracy: 0.4976 - lr: 6.0000e-06

2883/2883 [==============================] - 23s 8ms/step

Evaluation Metrics:

Precision: 0.5000

Recall: 1.0000

F1 Score: 0.6666

ROC AUC: 0.5000

PR AUC: 0.5000

MCC: 0.0000

y\_pred = (test\_scores > 0.6).astype(int)

...: y\_true = y\_test.astype(int)

...:

...: # Calculate evaluation metrics

...: precision = precision\_score(y\_true, y\_pred)

...: recall = recall\_score(y\_true, y\_pred)

...: f1 = f1\_score(y\_true, y\_pred)

...: roc\_auc = roc\_auc\_score(y\_true, test\_scores)

...: pr\_auc = average\_precision\_score(y\_true, test\_scores)

...: mcc = matthews\_corrcoef(y\_true, y\_pred)

...:

...: # Confusion Matrix

...: conf\_matrix = confusion\_matrix(y\_true, y\_pred)

...:

...: # Display evaluation metrics

...: print("\nEvaluation Metrics:")

...: print(f'Precision: {precision:.4f}')

...: print(f'Recall: {recall:.4f}')

...: print(f'F1 Score: {f1:.4f}')

...: print(f'ROC AUC: {roc\_auc:.4f}')

...: print(f'PR AUC: {pr\_auc:.4f}')

...: print(f'MCC: {mcc:.4f}')

C:\Users\skape\PycharmProjects\Thesis\_tensorflow\.venv\lib\site-packages\sklearn\metrics\\_classification.py:1471: UndefinedMetricWarning: Precision is ill-defined and being set to 0.0 due to no predicted samples. Use `zero\_division` parameter to control this behavior.

\_warn\_prf(average, modifier, msg\_start, len(result))

Evaluation Metrics:

Precision: 0.0000

Recall: 0.0000

F1 Score: 0.0000

ROC AUC: 0.5000

PR AUC: 0.5000

MCC: 0.0000

In [4]: y\_pred = (test\_scores > 0.7).astype(int)

...: y\_true = y\_test.astype(int)

...:

...: # Calculate evaluation metrics

...: precision = precision\_score(y\_true, y\_pred)

...: recall = recall\_score(y\_true, y\_pred)

...: f1 = f1\_score(y\_true, y\_pred)

...: roc\_auc = roc\_auc\_score(y\_true, test\_scores)

...: pr\_auc = average\_precision\_score(y\_true, test\_scores)

...: mcc = matthews\_corrcoef(y\_true, y\_pred)

...:

...: # Confusion Matrix

...: conf\_matrix = confusion\_matrix(y\_true, y\_pred)

...:

...: # Display evaluation metrics

...: print("\nEvaluation Metrics:")

...: print(f'Precision: {precision:.4f}')

...: print(f'Recall: {recall:.4f}')

...: print(f'F1 Score: {f1:.4f}')

...: print(f'ROC AUC: {roc\_auc:.4f}')

...: print(f'PR AUC: {pr\_auc:.4f}')

...: print(f'MCC: {mcc:.4f}')

C:\Users\skape\PycharmProjects\Thesis\_tensorflow\.venv\lib\site-packages\sklearn\metrics\\_classification.py:1471: UndefinedMetricWarning: Precision is ill-defined and being set to 0.0 due to no predicted samples. Use `zero\_division` parameter to control this behavior.

\_warn\_prf(average, modifier, msg\_start, len(result))

Evaluation Metrics:

Precision: 0.0000

Recall: 0.0000

F1 Score: 0.0000

ROC AUC: 0.5000

PR AUC: 0.5000

MCC: 0.0000

Εικόνα που περιέχει κείμενο, στιγμιότυπο οθόνης, διάγραμμα, γραμμή

Περιγραφή που δημιουργήθηκε αυτόματα

Εικόνα που περιέχει κείμενο, στιγμιότυπο οθόνης, ορθογώνιο παραλληλόγραμμο, σχεδίαση

Περιγραφή που δημιουργήθηκε αυτόματα

Εικόνα που περιέχει κείμενο, γραμμή, γράφημα, διάγραμμα

Περιγραφή που δημιουργήθηκε αυτόματα

Εικόνα που περιέχει κείμενο, γραμμή, γράφημα, στιγμιότυπο οθόνης

Περιγραφή που δημιουργήθηκε αυτόματα

