Epoch 1/50

1682/1682 [==============================] - ETA: 0s - loss: 1640.9034 - accuracy: 0.49962024-03-17 17:30:06.305823: W tensorflow/tsl/framework/cpu\_allocator\_impl.cc:83] Allocation of 21018624000 exceeds 10% of free system memory.

2024-03-17 17:31:07.079067: W tensorflow/tsl/framework/cpu\_allocator\_impl.cc:83] Allocation of 2463498240 exceeds 10% of free system memory.

2024-03-17 17:31:08.133787: W tensorflow/tsl/framework/cpu\_allocator\_impl.cc:83] Allocation of 2463498240 exceeds 10% of free system memory.

1682/1682 [==============================] - 1582s 938ms/step - loss: 1640.9034 - accuracy: 0.4996 - val\_loss: 1625.9742 - val\_accuracy: 0.5024 - lr: 1.0000e-04

Epoch 2/50

1682/1682 [==============================] - ETA: 0s - loss: 1223.8857 - accuracy: 0.54212024-03-17 17:54:53.164363: W tensorflow/tsl/framework/cpu\_allocator\_impl.cc:83] Allocation of 21018624000 exceeds 10% of free system memory.

2024-03-17 17:55:10.604076: W tensorflow/tsl/framework/cpu\_allocator\_impl.cc:83] Allocation of 2463498240 exceeds 10% of free system memory.

1682/1682 [==============================] - 1443s 858ms/step - loss: 1223.8857 - accuracy: 0.5421 - val\_loss: 1593.0450 - val\_accuracy: 0.5140 - lr: 1.0000e-04

Epoch 3/50

1682/1682 [==============================] - 1448s 861ms/step - loss: 277.5300 - accuracy: 0.6989 - val\_loss: 2149.4055 - val\_accuracy: 0.5179 - lr: 1.0000e-04

Epoch 4/50

1682/1682 [==============================] - 1328s 789ms/step - loss: 81.2141 - accuracy: 0.8161 - val\_loss: 2024.2014 - val\_accuracy: 0.5145 - lr: 1.0000e-04

Epoch 5/50

1682/1682 [==============================] - 1273s 756ms/step - loss: 39.0017 - accuracy: 0.8897 - val\_loss: 1941.0175 - val\_accuracy: 0.5186 - lr: 1.0000e-04

Epoch 6/50

1682/1682 [==============================] - 1309s 778ms/step - loss: 18.5332 - accuracy: 0.9396 - val\_loss: 2491.1382 - val\_accuracy: 0.5191 - lr: 1.0000e-04

Epoch 7/50

1682/1682 [==============================] - ETA: 0s - loss: 11.2627 - accuracy: 0.9464

Epoch 7: ReduceLROnPlateau reducing learning rate to 5.999999848427251e-05.

1682/1682 [==============================] - 1296s 770ms/step - loss: 11.2627 - accuracy: 0.9464 - val\_loss: 2252.9644 - val\_accuracy: 0.5232 - lr: 1.0000e-04

2883/2883 [==============================] - 35s 12ms/step

Evaluation Metrics:

Precision: 1.0000

Recall: 0.0221

F1 Score: 0.0433

ROC AUC: 0.5139

PR AUC: 0.5329

MCC: 0.1058

In [3]: 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}')

...:

Evaluation Metrics:

Precision: 1.0000

Recall: 0.0221

F1 Score: 0.0433

ROC AUC: 0.5139

PR AUC: 0.5329

MCC: 0.1058

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}')

...:

Evaluation Metrics:

Precision: 1.0000

Recall: 0.0221

F1 Score: 0.0433

ROC AUC: 0.5139

PR AUC: 0.5329

MCC: 0.1058

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

Περιγραφή που δημιουργήθηκε αυτόματα

Εικόνα που περιέχει κείμενο, διάγραμμα, γραμμή, γράφημα

Περιγραφή που δημιουργήθηκε αυτόματα

Εικόνα που περιέχει κείμενο, στιγμιότυπο οθόνης, διάγραμμα, πολυχρωμία

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