Epoch 1/50

1682/1682 [==============================] - ETA: 0s - loss: 999.6763 - accuracy: 0.50052024-03-27 01:39:59.112464: W tensorflow/tsl/framework/cpu\_allocator\_impl.cc:83] Allocation of 21018624000 exceeds 10% of free system memory.

2024-03-27 01:40:34.143977: W tensorflow/tsl/framework/cpu\_allocator\_impl.cc:83] Allocation of 2463498240 exceeds 10% of free system memory.

2024-03-27 01:40:34.956267: W tensorflow/tsl/framework/cpu\_allocator\_impl.cc:83] Allocation of 2463498240 exceeds 10% of free system memory.

1682/1682 [==============================] - 1715s 1s/step - loss: 999.6763 - accuracy: 0.5005 - val\_loss: 835.8243 - val\_accuracy: 0.4976 - lr: 1.0000e-04

Epoch 2/50

1682/1682 [==============================] - ETA: 0s - loss: 758.4645 - accuracy: 0.50052024-03-27 02:08:17.093517: W tensorflow/tsl/framework/cpu\_allocator\_impl.cc:83] Allocation of 21018624000 exceeds 10% of free system memory.

2024-03-27 02:08:26.451406: W tensorflow/tsl/framework/cpu\_allocator\_impl.cc:83] Allocation of 2463498240 exceeds 10% of free system memory.

1682/1682 [==============================] - 1672s 994ms/step - loss: 758.4645 - accuracy: 0.5005 - val\_loss: 818.6174 - val\_accuracy: 0.4976 - lr: 1.0000e-04

Epoch 3/50

1682/1682 [==============================] - 1677s 997ms/step - loss: 636.2526 - accuracy: 0.5005 - val\_loss: 930.8803 - val\_accuracy: 0.4976 - lr: 1.0000e-04

Epoch 4/50

1682/1682 [==============================] - 1675s 996ms/step - loss: 538.4496 - accuracy: 0.5007 - val\_loss: 1057.3965 - val\_accuracy: 0.5025 - lr: 1.0000e-04

Epoch 5/50

1682/1682 [==============================] - 1680s 999ms/step - loss: 471.9859 - accuracy: 0.5034 - val\_loss: 1111.4689 - val\_accuracy: 0.5163 - lr: 1.0000e-04

Epoch 6/50

1682/1682 [==============================] - 1680s 999ms/step - loss: 426.9908 - accuracy: 0.5120 - val\_loss: 1226.5471 - val\_accuracy: 0.5303 - lr: 1.0000e-04

Epoch 7/50

1682/1682 [==============================] - ETA: 0s - loss: 393.6889 - accuracy: 0.5199

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

1682/1682 [==============================] - 1672s 994ms/step - loss: 393.6889 - accuracy: 0.5199 - val\_loss: 1369.6382 - val\_accuracy: 0.5443 - lr: 1.0000e-04

2883/2883 [==============================] - 102s 35ms/step

Evaluation Metrics:

Precision: 0.5000

Recall: 1.0000

F1 Score: 0.6666

ROC AUC: 0.7583

PR AUC: 0.7809

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}')

...:

Evaluation Metrics:

Precision: 0.5475

Recall: 0.9966

F1 Score: 0.7068

ROC AUC: 0.7583

PR AUC: 0.7809

MCC: 0.3026

In [7]: 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: 0.6165

Recall: 0.8771

F1 Score: 0.7240

ROC AUC: 0.7583

PR AUC: 0.7809

MCC: 0.3658

Εικόνα που περιέχει κείμενο, γράφημα, γραμμή, διάγραμμα

Περιγραφή που δημιουργήθηκε αυτόματα

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

Περιγραφή που δημιουργήθηκε αυτόματα

Εικόνα που περιέχει κείμενο, διάγραμμα, γράφημα, γραμμή

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