Epoch 1/50

1682/1682 [==============================] - ETA: 0s - loss: 998.5986 - accuracy: 0.64662024-03-26 20:41:56.302816: W tensorflow/tsl/framework/cpu\_allocator\_impl.cc:83] Allocation of 21018624000 exceeds 10% of free system memory.

2024-03-26 20:42:45.287509: W tensorflow/tsl/framework/cpu\_allocator\_impl.cc:83] Allocation of 2463498240 exceeds 10% of free system memory.

2024-03-26 20:42:46.187385: W tensorflow/tsl/framework/cpu\_allocator\_impl.cc:83] Allocation of 2463498240 exceeds 10% of free system memory.

1682/1682 [==============================] - 1462s 866ms/step - loss: 998.5986 - accuracy: 0.6466 - val\_loss: 742.0822 - val\_accuracy: 0.6997 - lr: 1.0000e-04

Epoch 2/50

1682/1682 [==============================] - ETA: 0s - loss: 705.5594 - accuracy: 0.70852024-03-26 21:06:34.351443: W tensorflow/tsl/framework/cpu\_allocator\_impl.cc:83] Allocation of 21018624000 exceeds 10% of free system memory.

2024-03-26 21:07:04.092253: W tensorflow/tsl/framework/cpu\_allocator\_impl.cc:83] Allocation of 2463498240 exceeds 10% of free system memory.

1682/1682 [==============================] - 1459s 866ms/step - loss: 705.5594 - accuracy: 0.7085 - val\_loss: 653.3105 - val\_accuracy: 0.7098 - lr: 1.0000e-04

Epoch 3/50

1682/1682 [==============================] - 1431s 851ms/step - loss: 570.4097 - accuracy: 0.7364 - val\_loss: 660.8723 - val\_accuracy: 0.7086 - lr: 1.0000e-04

Epoch 4/50

1682/1682 [==============================] - 1304s 775ms/step - loss: 449.1080 - accuracy: 0.7618 - val\_loss: 729.8663 - val\_accuracy: 0.6694 - lr: 1.0000e-04

Epoch 5/50

1682/1682 [==============================] - 1300s 773ms/step - loss: 250.3201 - accuracy: 0.8374 - val\_loss: 791.2632 - val\_accuracy: 0.6970 - lr: 1.0000e-04

Epoch 6/50

1682/1682 [==============================] - 1317s 783ms/step - loss: 87.4454 - accuracy: 0.9068 - val\_loss: 841.0253 - val\_accuracy: 0.7021 - lr: 1.0000e-04

Epoch 7/50

1682/1682 [==============================] - ETA: 0s - loss: 34.2111 - accuracy: 0.9544

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

1682/1682 [==============================] - 1375s 817ms/step - loss: 34.2111 - accuracy: 0.9544 - val\_loss: 877.4068 - val\_accuracy: 0.7030 - lr: 1.0000e-04

2883/2883 [==============================] - 57s 19ms/step

Evaluation Metrics:

Precision: 0.6580

Recall: 0.8845

F1 Score: 0.7547

ROC AUC: 0.8293

PR AUC: 0.8481

MCC: 0.4526

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: 0.9801

Recall: 0.3975

F1 Score: 0.5656

ROC AUC: 0.8293

PR AUC: 0.8481

MCC: 0.4843

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: 0.9985

Recall: 0.2722

F1 Score: 0.4278

ROC AUC: 0.8293

PR AUC: 0.8481

MCC: 0.3961

Εικόνα που περιέχει κείμενο, γραμμή, γράφημα, διάγραμμα

Περιγραφή που δημιουργήθηκε αυτόματα

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