Epoch 1/50

1682/1682 [==============================] - ETA: 0s - loss: 911.4000 - accuracy: 0.65262024-03-28 13:25:45.732258: W tensorflow/tsl/framework/cpu\_allocator\_impl.cc:83] Allocation of 21018624000 exceeds 10% of free system memory.

2024-03-28 13:26:48.181898: W tensorflow/tsl/framework/cpu\_allocator\_impl.cc:83] Allocation of 2463498240 exceeds 10% of free system memory.

2024-03-28 13:26:49.530594: W tensorflow/tsl/framework/cpu\_allocator\_impl.cc:83] Allocation of 2463498240 exceeds 10% of free system memory.

1682/1682 [==============================] - 1556s 922ms/step - loss: 911.4000 - accuracy: 0.6526 - val\_loss: 712.7632 - val\_accuracy: 0.6978 - lr: 1.0000e-04

Epoch 2/50

1682/1682 [==============================] - ETA: 0s - loss: 593.7847 - accuracy: 0.73672024-03-28 13:52:16.092561: W tensorflow/tsl/framework/cpu\_allocator\_impl.cc:83] Allocation of 21018624000 exceeds 10% of free system memory.

2024-03-28 13:52:52.121693: W tensorflow/tsl/framework/cpu\_allocator\_impl.cc:83] Allocation of 2463498240 exceeds 10% of free system memory.

1682/1682 [==============================] - 1564s 929ms/step - loss: 593.7847 - accuracy: 0.7367 - val\_loss: 626.0426 - val\_accuracy: 0.7182 - lr: 1.0000e-04

Epoch 3/50

1682/1682 [==============================] - 1435s 853ms/step - loss: 389.6744 - accuracy: 0.8045 - val\_loss: 641.7081 - val\_accuracy: 0.7216 - lr: 1.0000e-04

Epoch 4/50

1682/1682 [==============================] - 1420s 844ms/step - loss: 260.6261 - accuracy: 0.8507 - val\_loss: 688.9622 - val\_accuracy: 0.7201 - lr: 1.0000e-04

Epoch 5/50

1682/1682 [==============================] - 1426s 847ms/step - loss: 170.7660 - accuracy: 0.8847 - val\_loss: 752.0813 - val\_accuracy: 0.7181 - lr: 1.0000e-04

Epoch 6/50

1682/1682 [==============================] - 1616s 961ms/step - loss: 106.4278 - accuracy: 0.9100 - val\_loss: 845.5383 - val\_accuracy: 0.7155 - lr: 1.0000e-04

Epoch 7/50

1682/1682 [==============================] - ETA: 0s - loss: 63.2753 - accuracy: 0.9306

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

1682/1682 [==============================] - 1631s 969ms/step - loss: 63.2753 - accuracy: 0.9306 - val\_loss: 1009.3143 - val\_accuracy: 0.7128 - lr: 1.0000e-04

2883/2883 [==============================] - 53s 18ms/step

Evaluation Metrics:

Precision: 0.7031

Recall: 0.7637

F1 Score: 0.7321

ROC AUC: 0.8351

PR AUC: 0.8527

MCC: 0.4429

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: 0.9507

Recall: 0.4517

F1 Score: 0.6124

ROC AUC: 0.8351

PR AUC: 0.8527

MCC: 0.5031

In [6]: 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: 0.9976

Recall: 0.3110

F1 Score: 0.4742

ROC AUC: 0.8351

PR AUC: 0.8527

MCC: 0.4277

Εικόνα που περιέχει κείμενο, στιγμιότυπο οθόνης, διάγραμμα, σχεδίαση

Περιγραφή που δημιουργήθηκε αυτόματα

Εικόνα που περιέχει γράφημα, διάγραμμα, γραμμή, κείμενο

Περιγραφή που δημιουργήθηκε αυτόματα

Εικόνα που περιέχει κείμενο, διάγραμμα, γράφημα, γραμμή

Περιγραφή που δημιουργήθηκε αυτόματα

Εικόνα που περιέχει κείμενο, γράφημα, γραμμή, διάγραμμα

Περιγραφή που δημιουργήθηκε αυτόματα

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

Περιγραφή που δημιουργήθηκε αυτόματα