Epoch 1/30

1682/1682 [==============================] - ETA: 0s - loss: 18.7377 - accuracy: 0.51592024-04-18 17:14:50.741089: W tensorflow/tsl/framework/cpu\_allocator\_impl.cc:83] Allocation of 10509312000 exceeds 10% of free system memory.

2024-04-18 17:14:56.428672: W tensorflow/tsl/framework/cpu\_allocator\_impl.cc:83] Allocation of 10509312000 exceeds 10% of free system memory.

2024-04-18 17:15:01.067549: W tensorflow/tsl/framework/cpu\_allocator\_impl.cc:83] Allocation of 1847623680 exceeds 10% of free system memory.

2024-04-18 17:15:01.822130: W tensorflow/tsl/framework/cpu\_allocator\_impl.cc:83] Allocation of 2463498240 exceeds 10% of free system memory.

1682/1682 [==============================] - 1096s 649ms/step - loss: 18.7377 - accuracy: 0.5159 - val\_loss: 13.2945 - val\_accuracy: 0.6037 - lr: 1.0000e-05

Epoch 2/30

1682/1682 [==============================] - ETA: 0s - loss: 9.3237 - accuracy: 0.59972024-04-18 17:32:52.004308: W tensorflow/tsl/framework/cpu\_allocator\_impl.cc:83] Allocation of 10509312000 exceeds 10% of free system memory.

1682/1682 [==============================] - 1079s 642ms/step - loss: 9.3237 - accuracy: 0.5997 - val\_loss: 6.0717 - val\_accuracy: 0.6416 - lr: 1.0000e-05

Epoch 3/30

1682/1682 [==============================] - 1064s 632ms/step - loss: 4.0680 - accuracy: 0.6578 - val\_loss: 2.5207 - val\_accuracy: 0.6588 - lr: 1.0000e-05

Epoch 4/30

1682/1682 [==============================] - 1056s 628ms/step - loss: 1.6859 - accuracy: 0.6970 - val\_loss: 1.1125 - val\_accuracy: 0.6678 - lr: 1.0000e-05

Epoch 5/30

1682/1682 [==============================] - 1061s 631ms/step - loss: 0.8169 - accuracy: 0.7276 - val\_loss: 0.6719 - val\_accuracy: 0.6680 - lr: 1.0000e-05

Epoch 6/30

1682/1682 [==============================] - 1061s 631ms/step - loss: 0.5420 - accuracy: 0.7535 - val\_loss: 0.5609 - val\_accuracy: 0.6640 - lr: 1.0000e-05

Epoch 7/30

1682/1682 [==============================] - 1069s 636ms/step - loss: 0.4517 - accuracy: 0.7764 - val\_loss: 0.5516 - val\_accuracy: 0.6590 - lr: 1.0000e-05

Epoch 8/30

1682/1682 [==============================] - 1067s 634ms/step - loss: 0.4116 - accuracy: 0.7960 - val\_loss: 0.5670 - val\_accuracy: 0.6551 - lr: 1.0000e-05

Epoch 9/30

1682/1682 [==============================] - 1069s 636ms/step - loss: 0.3851 - accuracy: 0.8123 - val\_loss: 0.5998 - val\_accuracy: 0.6483 - lr: 1.0000e-05

Epoch 10/30

1682/1682 [==============================] - 1068s 635ms/step - loss: 0.3635 - accuracy: 0.8270 - val\_loss: 0.6375 - val\_accuracy: 0.6430 - lr: 1.0000e-05

Epoch 11/30

1682/1682 [==============================] - 1053s 626ms/step - loss: 0.3445 - accuracy: 0.8396 - val\_loss: 0.7005 - val\_accuracy: 0.6386 - lr: 1.0000e-05

Epoch 12/30

1682/1682 [==============================] - ETA: 0s - loss: 0.3271 - accuracy: 0.8505

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

1682/1682 [==============================] - 1052s 625ms/step - loss: 0.3271 - accuracy: 0.8505 - val\_loss: 0.7439 - val\_accuracy: 0.6320 - lr: 1.0000e-05

2883/2883 [==============================] - 30s 10ms/step

Evaluation Metrics:

Precision: 0.6459

Recall: 0.7071

F1 Score: 0.6751

ROC AUC: 0.7837

PR AUC: 0.8134

MCC: 0.3210

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("\Evaluation 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: 0.7643

Recall: 0.5190

F1 Score: 0.6182

ROC AUC: 0.7837

PR AUC: 0.8134

MCC: 0.3790

In [5]: 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("\Evaluation 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: 0.8528

Recall: 0.4707

F1 Score: 0.6066

ROC AUC: 0.7837

PR AUC: 0.8134

MCC: 0.4357

Εικόνα που περιέχει γράφημα, γραμμή, διάγραμμα, κείμενο

Περιγραφή που δημιουργήθηκε αυτόματα

Εικόνα που περιέχει κείμενο, διάγραμμα, γράφημα, γραμμή

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