Epoch 1/15

1682/1682 [==============================] - 1155s 684ms/step - loss: 3.8636 - accuracy: 0.6209 - val\_loss: 0.5148 - val\_accuracy: 0.6814 - lr: 1.0000e-04

Epoch 2/15

1682/1682 [==============================] - 1128s 670ms/step - loss: 0.4487 - accuracy: 0.7329 - val\_loss: 0.4897 - val\_accuracy: 0.6815 - lr: 1.0000e-04

Epoch 3/15

1682/1682 [==============================] - 1142s 679ms/step - loss: 0.3630 - accuracy: 0.7983 - val\_loss: 0.5979 - val\_accuracy: 0.6602 - lr: 1.0000e-04

Epoch 4/15

1682/1682 [==============================] - 1105s 657ms/step - loss: 0.2330 - accuracy: 0.8892 - val\_loss: 0.9969 - val\_accuracy: 0.6438 - lr: 1.0000e-04

Epoch 5/15

1682/1682 [==============================] - 1157s 688ms/step - loss: 0.0727 - accuracy: 0.9739 - val\_loss: 1.8113 - val\_accuracy: 0.6410 - lr: 7.0000e-05

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

Evaluation Metrics:

Precision: 0.6505

Recall: 0.7725

F1 Score: 0.7063

ROC AUC: 0.7993

PR AUC: 0.8255

MCC: 0.3639

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)

...:

...: # 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}')

...: 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)

...:

...: # 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: 0.8428

Recall: 0.4894

F1 Score: 0.6192

ROC AUC: 0.7993

PR AUC: 0.8255

MCC: 0.4385

Evaluation Metrics:

Precision: 0.8873

Recall: 0.4720

F1 Score: 0.6162

ROC AUC: 0.7993

PR AUC: 0.8255

MCC: 0.4663

Εικόνα που περιέχει κείμενο, διάγραμμα, γραμμή, γράφημα

Περιγραφή που δημιουργήθηκε αυτόματα

Εικόνα που περιέχει κείμενο, στιγμιότυπο οθόνης, διάγραμμα, γραμμή

Περιγραφή που δημιουργήθηκε αυτόματα

Εικόνα που περιέχει κείμενο, στιγμιότυπο οθόνης, διάγραμμα, πολυχρωμία

Περιγραφή που δημιουργήθηκε αυτόματα

Εικόνα που περιέχει κείμενο, στιγμιότυπο οθόνης, διάγραμμα, γραμμή

Περιγραφή που δημιουργήθηκε αυτόματα

Εικόνα που περιέχει διάγραμμα, γράφημα, γραμμή, κείμενο

Περιγραφή που δημιουργήθηκε αυτόματα

Εικόνα που περιέχει κείμενο, στιγμιότυπο οθόνης, διάγραμμα

Περιγραφή που δημιουργήθηκε αυτόματα

Εικόνα που περιέχει κείμενο, διάγραμμα, γράφημα, γραμμή

Περιγραφή που δημιουργήθηκε αυτόματα

Triplet 1 (Original):

Subject: https://ec.europa.eu/eurostat/NLP4StatRef/knowledge/hlth\_ehis\_aw1u, Predicate: https://ec.europa.eu/eurostat/NLP4StatRef/ontology/term, Object: hlth\_ehis\_aw1u

157/157 [==============================] - 2s 14ms/step

Intercept 0.47023458119912925

Prediction\_local [0.49617161]

Right: 0.5004525

Feature Importances (Coefficients):

Predicate: 0.03489299111800428

Object: -0.00969982677512531

Subject: 0.0007438604810971709

Triplet 2 (Original):

Subject: https://ec.europa.eu/eurostat/NLP4StatRef/knowledge/paragraph9574\_3455, Predicate: http://www.w3.org/1999/02/22-rdf-syntax-ns#type, Object: https://ec.europa.eu/eurostat/NLP4StatRef/ontology/Paragraph

157/157 [==============================] - 2s 14ms/step

Intercept 0.4636979004993603

Prediction\_local [0.52106314]

Right: 0.006487756

Feature Importances (Coefficients):

Predicate: 0.03004489563485877

Object: 0.026478093354960743

Subject: 0.0008422481326965558

Triplet 3 (Original):

Subject: https://ec.europa.eu/eurostat/NLP4StatRef/ontology/ei\_qna, Predicate: http://www.w3.org/1999/02/22-rdf-syntax-ns#type, Object: https://ec.europa.eu/eurostat/NLP4StatRef/ontology/StatisticalData

157/157 [==============================] - 2s 13ms/step

Intercept 0.4687743414773869

Prediction\_local [0.49000281]

Right: 0.00094518904

Feature Importances (Coefficients):

Predicate: 0.03679901817970693

Object: -0.011280610749529114

Subject: -0.004289941037407995

Triplet 4 (Original):

Subject: https://ec.europa.eu/eurostat/NLP4StatRef/knowledge/glossaryArticle118, Predicate: https://ec.europa.eu/eurostat/NLP4StatRef/ontology/hasReference, Object: https://ec.europa.eu/eurostat/NLP4StatRef/knowledge/referenceSource59

157/157 [==============================] - 2s 13ms/step

Intercept 0.499861547031294

Prediction\_local [0.43648771]

Right: 0.44556153

Feature Importances (Coefficients):

Predicate: -0.06308240436818324

Object: -0.00223058460866245

Subject: 0.0019391482164978612

Triplet 5 (Original):

Subject: https://ec.europa.eu/eurostat/NLP4StatRef/ontology/fats\_08, Predicate: https://ec.europa.eu/eurostat/NLP4StatRef/ontology/level, Object: 4

157/157 [==============================] - 2s 12ms/step

Intercept 0.49252074662859296

Prediction\_local [0.48783381]

Right: 0.49820372

Feature Importances (Coefficients):

Object: -0.012034605646220877

Predicate: 0.011759277891416838

Subject: -0.0044116062786939214