Epoch 1/15

6726/6726 [==============================] - 17574s 3s/step - loss: 2.2473 - accuracy: 0.7052 - val\_loss: 0.6460 - val\_accuracy: 0.7532 - lr: 5.0000e-05

Epoch 2/15

6726/6726 [==============================] - 17731s 3s/step - loss: 0.5648 - accuracy: 0.7603 - val\_loss: 0.5187 - val\_accuracy: 0.7612 - lr: 5.0000e-05

Epoch 3/15

6726/6726 [==============================] - 17980s 3s/step - loss: 0.4512 - accuracy: 0.8043 - val\_loss: 0.5033 - val\_accuracy: 0.7762 - lr: 5.0000e-05

Epoch 4/15

6726/6726 [==============================] - 16619s 2s/step - loss: 0.3820 - accuracy: 0.8425 - val\_loss: 0.4884 - val\_accuracy: 0.7902 - lr: 5.0000e-05

Epoch 5/15

6726/6726 [==============================] - 17421s 3s/step - loss: 0.3304 - accuracy: 0.8750 - val\_loss: 0.5551 - val\_accuracy: 0.7647 - lr: 5.0000e-05

Epoch 6/15

6726/6726 [==============================] - 16992s 3s/step - loss: 0.2870 - accuracy: 0.9031 - val\_loss: 0.5579 - val\_accuracy: 0.7671 - lr: 5.0000e-05

Epoch 7/15

6726/6726 [==============================] - 16549s 2s/step - loss: 0.2027 - accuracy: 0.9389 - val\_loss: 0.6715 - val\_accuracy: 0.7512 - lr: 2.5000e-05

5765/5765 [==============================] - 689s 119ms/step

Evaluation Metrics:

Precision: 0.6412

Recall: 0.3733

F1 Score: 0.4719

ROC AUC: 0.8081

PR AUC: 0.5925

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)

...:

...: # 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}')

...:

Evaluation Metrics:

Precision: 0.7219

Recall: 0.2817

F1 Score: 0.4053

ROC AUC: 0.8081

PR AUC: 0.5925

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)

...:

...: # 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}')

...:

Evaluation Metrics:

Precision: 0.7882

Recall: 0.1962

F1 Score: 0.3142

ROC AUC: 0.8081

PR AUC: 0.5925

Εικόνα που περιέχει κείμενο, στιγμιότυπο οθόνης, γραμμή, πολυχρωμία

Περιγραφή που δημιουργήθηκε αυτόματα

Εικόνα που περιέχει κείμενο, στιγμιότυπο οθόνης, διάγραμμα, πολυχρωμία

Περιγραφή που δημιουργήθηκε αυτόματα

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

Περιγραφή που δημιουργήθηκε αυτόματα

Εικόνα που περιέχει κείμενο, γράφημα, γραμμή, διάγραμμα

Περιγραφή που δημιουργήθηκε αυτόματα

Εικόνα που περιέχει διάγραμμα, γράφημα, γραμμή, κείμενο

Περιγραφή που δημιουργήθηκε αυτόματα

Εικόνα που περιέχει κείμενο, στιγμιότυπο οθόνης, λογισμικό, σχεδίαση

Περιγραφή που δημιουργήθηκε αυτόματα

Εικόνα που περιέχει κείμενο, διάγραμμα, γραμμή, γράφημα

Περιγραφή που δημιουργήθηκε αυτόματα

Triplet 1 (Original):

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

157/157 [==============================] - 20s 129ms/step

Intercept 0.08998772233365321

Prediction\_local [-0.02222864]

Right: 0.00024799496

Feature Importances (Coefficients):

Predicate: -0.05802689020452136

Subject: -0.05435836125560934

Object: 0.0001688891084620777

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 [==============================] - 18s 112ms/step

Intercept -0.04736436042010786

Prediction\_local [0.30809552]

Right: 0.53308976

Feature Importances (Coefficients):

Subject: 0.19387100317741296

Predicate: 0.13990795757546465

Object: 0.021680922533825073

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 [==============================] - 18s 113ms/step

Intercept 0.022781510137277146

Prediction\_local [0.07089059]

Right: 0.026016515

Feature Importances (Coefficients):

Predicate: 0.11025643836948952

Subject: -0.06291691743079025

Object: 0.0007695549139818693

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 [==============================] - 18s 112ms/step

Intercept 0.07318182087934981

Prediction\_local [-0.02438137]

Right: 0.0041920575

Feature Importances (Coefficients):

Predicate: -0.045954345504684815

Subject: -0.029510040078333796

Object: -0.022098808858479327

Triplet 5 (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 [==============================] - 18s 112ms/step

Intercept 0.07878915648902657

Prediction\_local [-0.02065929]

Right: 3.3048385e-05

Feature Importances (Coefficients):

Predicate: -0.05756067879407593

Subject: -0.0445791448025478

Object: 0.0026913755852638957