Epoch 1/15

3363/3363 [==============================] - 15541s 5s/step - loss: 2.6558 - accuracy: 0.6517 - val\_loss: 0.7854 - val\_accuracy: 0.6567 - lr: 5.0000e-05

Epoch 2/15

3363/3363 [==============================] - 15517s 5s/step - loss: 0.5286 - accuracy: 0.7503 - val\_loss: 0.5135 - val\_accuracy: 0.6621 - lr: 5.0000e-05

Epoch 3/15

3363/3363 [==============================] - 17688s 5s/step - loss: 0.4116 - accuracy: 0.7972 - val\_loss: 0.5222 - val\_accuracy: 0.6621 - lr: 5.0000e-05

Epoch 4/15

3363/3363 [==============================] - 16693s 5s/step - loss: 0.3485 - accuracy: 0.8381 - val\_loss: 0.5813 - val\_accuracy: 0.6709 - lr: 5.0000e-05

Epoch 5/15

3363/3363 [==============================] - 15623s 5s/step - loss: 0.2502 - accuracy: 0.8906 - val\_loss: 0.8426 - val\_accuracy: 0.6522 - lr: 2.5000e-05

2883/2883 [==============================] - 657s 228ms/step

Evaluation Metrics:

Precision: 0.6821

Recall: 0.6085

F1 Score: 0.6432

ROC AUC: 0.7919

PR AUC: 0.8182

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: 0.9081

Recall: 0.4596

F1 Score: 0.6103

ROC AUC: 0.7919

PR AUC: 0.8182

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: 0.9550

Recall: 0.4349

F1 Score: 0.5976

ROC AUC: 0.7919

PR AUC: 0.8182

Εικόνα που περιέχει κείμενο, στιγμιότυπο οθόνης, γραμμή, διάγραμμα

Περιγραφή που δημιουργήθηκε αυτόματα

Εικόνα που περιέχει κείμενο, στιγμιότυπο οθόνης, γραμμή, διάγραμμα

Περιγραφή που δημιουργήθηκε αυτόματα

Εικόνα που περιέχει κείμενο, στιγμιότυπο οθόνης, οθόνη, γραμμή

Περιγραφή που δημιουργήθηκε αυτόματα

Εικόνα που περιέχει κείμενο, γράφημα, διάγραμμα, γραμμή

Περιγραφή που δημιουργήθηκε αυτόματα

Εικόνα που περιέχει διάγραμμα, γράφημα, γραμμή, κείμενο

Περιγραφή που δημιουργήθηκε αυτόματα

Εικόνα που περιέχει κείμενο, στιγμιότυπο οθόνης, διάγραμμα, σχεδίαση

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 [==============================] - 38s 239ms/step

Intercept 0.5376398143403909

Prediction\_local [0.57134504]

Right: 0.5822499

Feature Importances (Coefficients):

Object: 0.026005474677555644

Predicate: 0.011997396846563098

Subject: -0.004297647921638278

Triplet 2 (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 [==============================] - 40s 257ms/step

Intercept 0.5294675013531468

Prediction\_local [0.56461359]

Right: 0.5100674

Feature Importances (Coefficients):

Object: 0.02446887100031721

Predicate: 0.01570432334684636

Subject: -0.00502710885756094

Triplet 3 (Original):

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

157/157 [==============================] - 36s 228ms/step

Intercept 0.566735962353724

Prediction\_local [0.47429254]

Right: 0.47028106

Feature Importances (Coefficients):

Object: -0.06608360559797925

Predicate: -0.023975603455683874

Subject: -0.0023842177049940363

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 [==============================] - 38s 239ms/step

Intercept 0.5430259579941942

Prediction\_local [0.5459232]

Right: 0.5757789

Feature Importances (Coefficients):

Predicate: -0.025548709466301143

Object: 0.023879160343333556

Subject: 0.004566789020708789

Triplet 5 (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 [==============================] - 38s 240ms/step

Intercept 0.5375239435525233

Prediction\_local [0.55263825]

Right: 0.5429708

Feature Importances (Coefficients):

Predicate: 0.014161033415628412

Subject: 0.004282067374779628

Object: -0.003328791201449567