Epoch 1/15

1682/1682 [==============================] - 1895s 1s/step - loss: 3.0910 - accuracy: 0.5020 - val\_loss: 0.8394 - val\_accuracy: 0.5112 - lr: 5.0000e-05

Epoch 2/15

1682/1682 [==============================] - 1876s 1s/step - loss: 0.7175 - accuracy: 0.5572 - val\_loss: 0.6966 - val\_accuracy: 0.5137 - lr: 5.0000e-05

Epoch 3/15

1682/1682 [==============================] - 1870s 1s/step - loss: 0.3772 - accuracy: 0.8542 - val\_loss: 1.0871 - val\_accuracy: 0.5217 - lr: 5.0000e-05

Epoch 4/15

1682/1682 [==============================] - 1855s 1s/step - loss: 0.1203 - accuracy: 0.9667 - val\_loss: 2.1627 - val\_accuracy: 0.5221 - lr: 5.0000e-05

Epoch 5/15

1682/1682 [==============================] - 1862s 1s/step - loss: 0.0505 - accuracy: 0.9896 - val\_loss: 2.3701 - val\_accuracy: 0.5218 - lr: 2.5000e-05

2883/2883 [==============================] - 6s 2ms/step

Evaluation Metrics:

Precision: 0.5218

Recall: 0.2706

F1 Score: 0.3564

ROC AUC: 0.5156

PR AUC: 0.5342

MCC: 0.0258

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}')

...:

Evaluation Metrics:

Precision: 0.8947

Recall: 0.0249

F1 Score: 0.0484

ROC AUC: 0.5156

PR AUC: 0.5342

MCC: 0.0937

In [8]: 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: 1.0000

Recall: 0.0214

F1 Score: 0.0420

ROC AUC: 0.5156

PR AUC: 0.5342

MCC: 0.1041

Εικόνα που περιέχει κείμενο, διάγραμμα, γραμμή, γράφημα

Περιγραφή που δημιουργήθηκε αυτόματα

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

Περιγραφή που δημιουργήθηκε αυτόματα

Εικόνα που περιέχει κείμενο, στιγμιότυπο οθόνης, γραμμή, διάγραμμα

Περιγραφή που δημιουργήθηκε αυτόματα

Εικόνα που περιέχει κείμενο, στιγμιότυπο οθόνης, γραμμή, πολυχρωμία

Περιγραφή που δημιουργήθηκε αυτόματα

Εικόνα που περιέχει κείμενο, διάγραμμα, γράφημα, γραμμή

Περιγραφή που δημιουργήθηκε αυτόματα

Εικόνα που περιέχει κείμενο, στιγμιότυπο οθόνης, λογισμικό

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 [==============================] - 0s 2ms/step

Intercept 0.47668955135666585

Prediction\_local [0.47658759]

Right: 0.51627827

Feature Importances (Coefficients):

Predicate: 0.011330331131780835

Subject: -0.005869717098625428

Object: -0.005562573739000244

Triplet 2 (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 [==============================] - 0s 2ms/step

Intercept 0.47615722658732085

Prediction\_local [0.47541642]

Right: 0.47821003

Feature Importances (Coefficients):

Predicate: 0.010725053214510772

Subject: -0.008075430271644273

Object: -0.0033904332380410834

Triplet 3 (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 [==============================] - 0s 2ms/step

Intercept 0.4819463086424342

Prediction\_local [0.47228548]

Right: 0.4623594

Feature Importances (Coefficients):

Predicate: -0.019599241477143602

Subject: 0.012531343989697234

Object: -0.0025929348968673697

Triplet 4 (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 [==============================] - 0s 2ms/step

Intercept 0.476972905942418

Prediction\_local [0.48486345]

Right: 0.45687756

Feature Importances (Coefficients):

Predicate: 0.011206627589220683

Subject: -0.004511173421378391

Object: 0.0011950872005343789

Triplet 5 (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 [==============================] - 0s 2ms/step

Intercept 0.482050195173011

Prediction\_local [0.4736977]

Right: 0.45947406

Feature Importances (Coefficients):

Predicate: -0.02009060900007697

Subject: 0.010105323370781313

Object: 0.0016327885288513495