

Logistic Regression for multiclass classification:

	precision	recall	f1-score	support
toxic	0.81	0.48	0.60	431
abusive	0.33	0.09	0.15	32
vulgar	0.77	0.47	0.59	249
menace	0.00	0.00	0.00	20
offense	0.71	0.33	0.45	230
bigotry	0.50	0.05	0.10	38
micro avg	0.77	0.40	0.53	1000
macro avg	0.52	0.24	0.31	1000
weighted avg	0.73	0.40	0.52	1000
samples avg	0.04	0.03	0.03	1000

Logistic Regression for toxic or not classification:

	precision	recall	f1-score	support
non_toxic	0.97	0.99	0.98	4264
toxic	0.90	0.66	0.76	431
accuracy			0.96	4695
macro avg	0.93	0.83	0.87	4695
weighted avg	0.96	0.96	0.96	4695

Random Forest for multiclass classification:

	precision	recall	f1-score	support
toxic	0.82	0.45	0.59	431
abusive	0.38	0.09	0.15	32
vulgar	0.82	0.45	0.58	249
menace	1.00	0.05	0.10	20
offense	0.84	0.37	0.51	230
bigotry	0.00	0.00	0.00	38
micro avg	0.82	0.40	0.53	1000
macro avg	0.64	0.24	0.32	1000
weighted avg	0.78	0.40	0.52	1000
samples avg	0.04	0.03	0.03	1000

Random Forest for toxic or not classification:

	precision	recall	f1-score	support
non_toxic	0.97	0.99	0.98	4264
toxic	0.90	0.66	0.76	431
accuracy			0.96	4695
macro avg	0.93	0.83	0.87	4695
weighted avg	0.96	0.96	0.96	4695

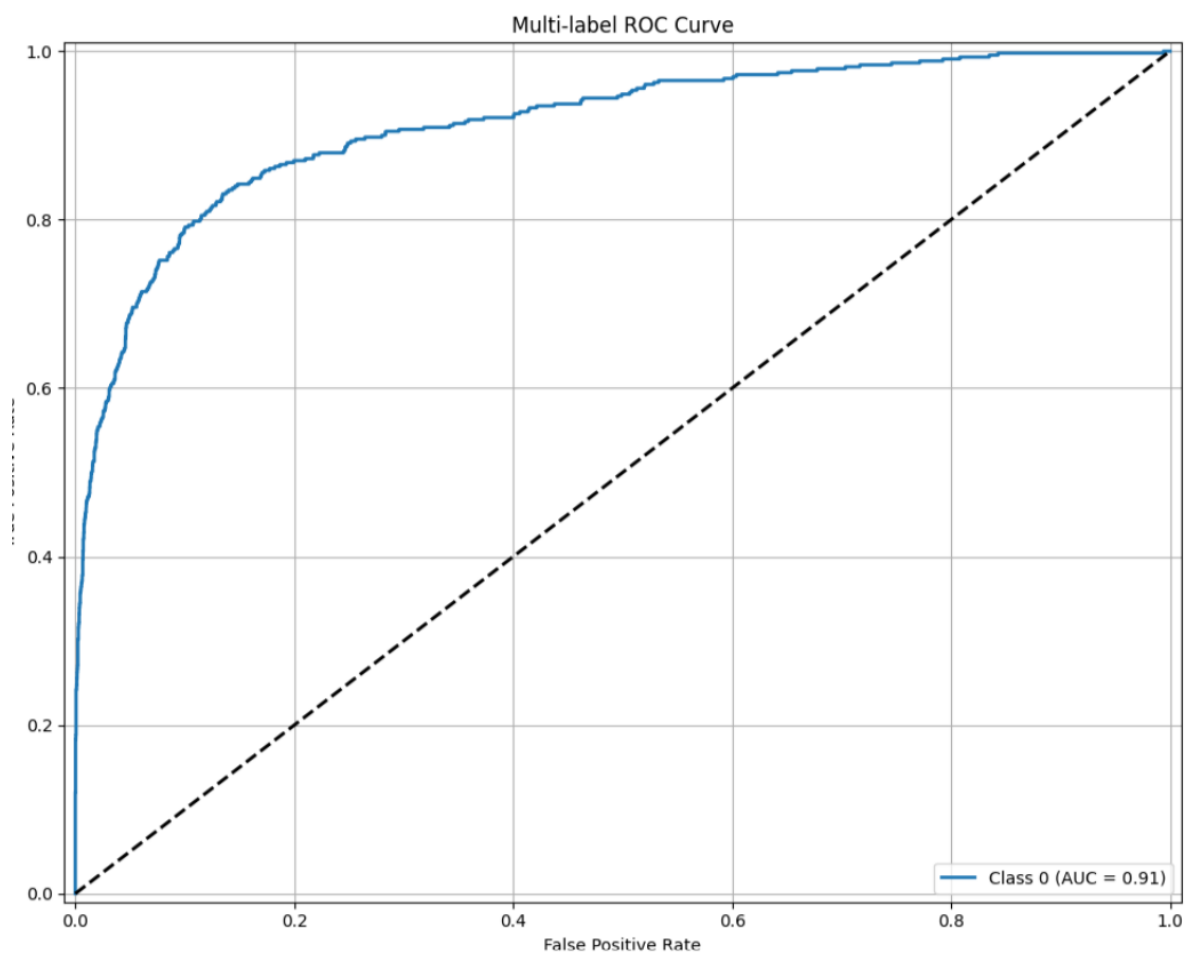
LSTM for multiclass classification:

147/147 — 1s 6ms/step
Accuracy: 0.9035
Precision (macro): 0.4402
Recall (macro): 0.2798
F1-score (macro): 0.3276

LSTM for toxic or not classification:

147/147 — 1s 6ms/step
Accuracy: 0.9378
Precision (macro): 0.8285
Recall (macro): 0.7697
F1-score (macro): 0.7954

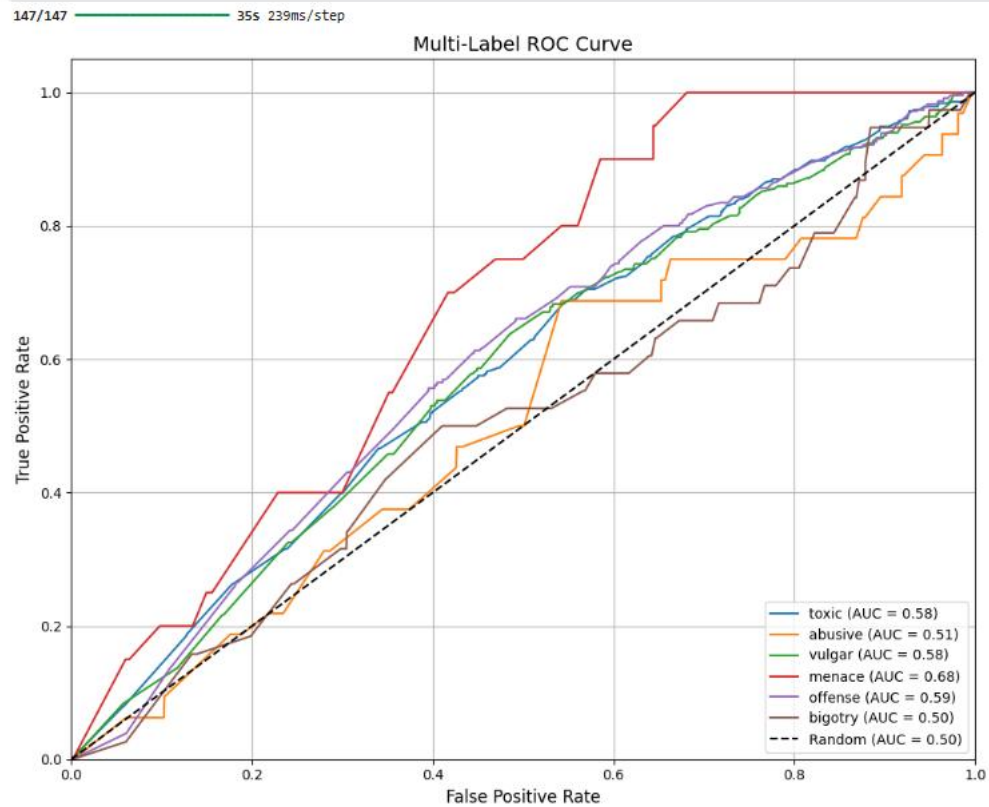
LSTM ROC Curve for toxic or not classification:



BERT for multiclass classification:

```
W0000 00:00:1744479797.980502 136 assert_c
146/147 0s 229ms/step
W0000 00:00:1744479837.427610 135 assert_c
147/147 43s 273ms/step
Accuracy: 0.9029
Precision: 0.0000
Recall: 0.0000
F1-score: 0.0000
```

BERT multiclass ROC Curve:



BERT for toxic or not classification:

```
W0000 00:00:1744525438.901839    129 assert_op.cc  
146/147 ————— 0s 249ms/step  
W0000 00:00:1744525481.077069    128 assert_op.cc  
147/147 ————— 47s 289ms/step  
Accuracy:  0.9082  
Precision: 0.4541  
Recall:    0.5000  
F1-score:  0.4759
```

BERT ROC Curve for toxic or not classification:

