



Training BERTimbau

Relevance Classification Model

BERTimbau

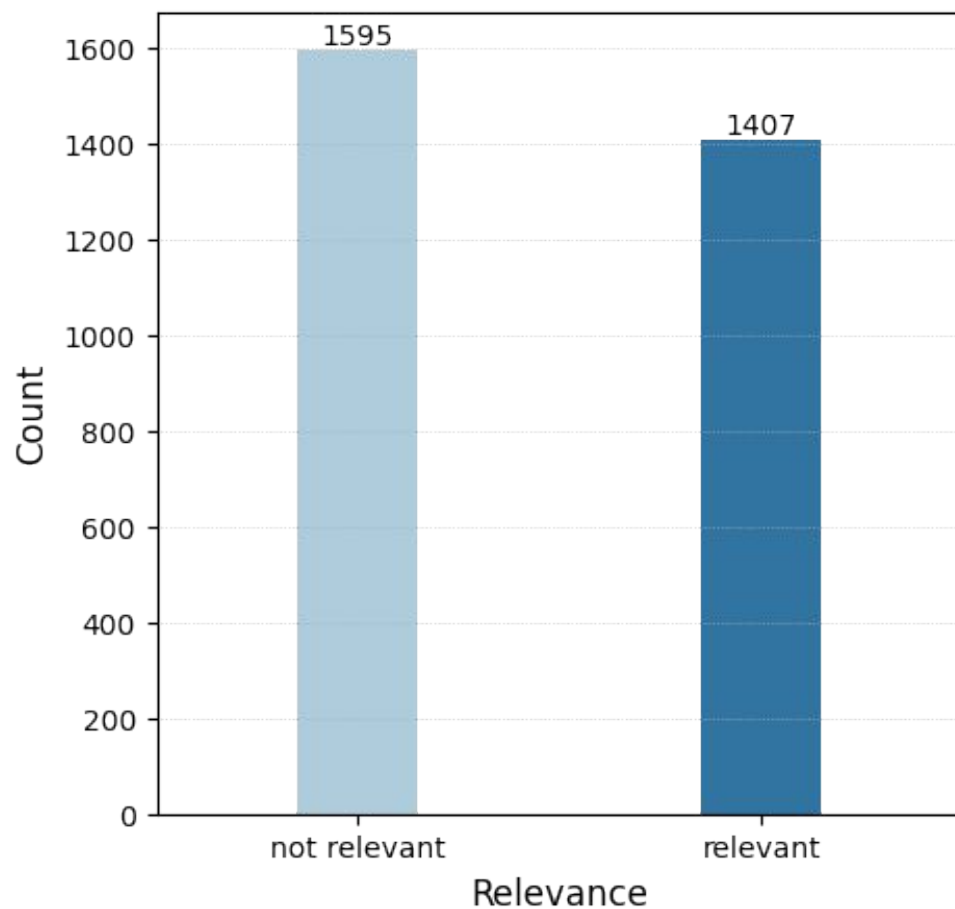


BERT-BASE-PORTUGUESE-CASED

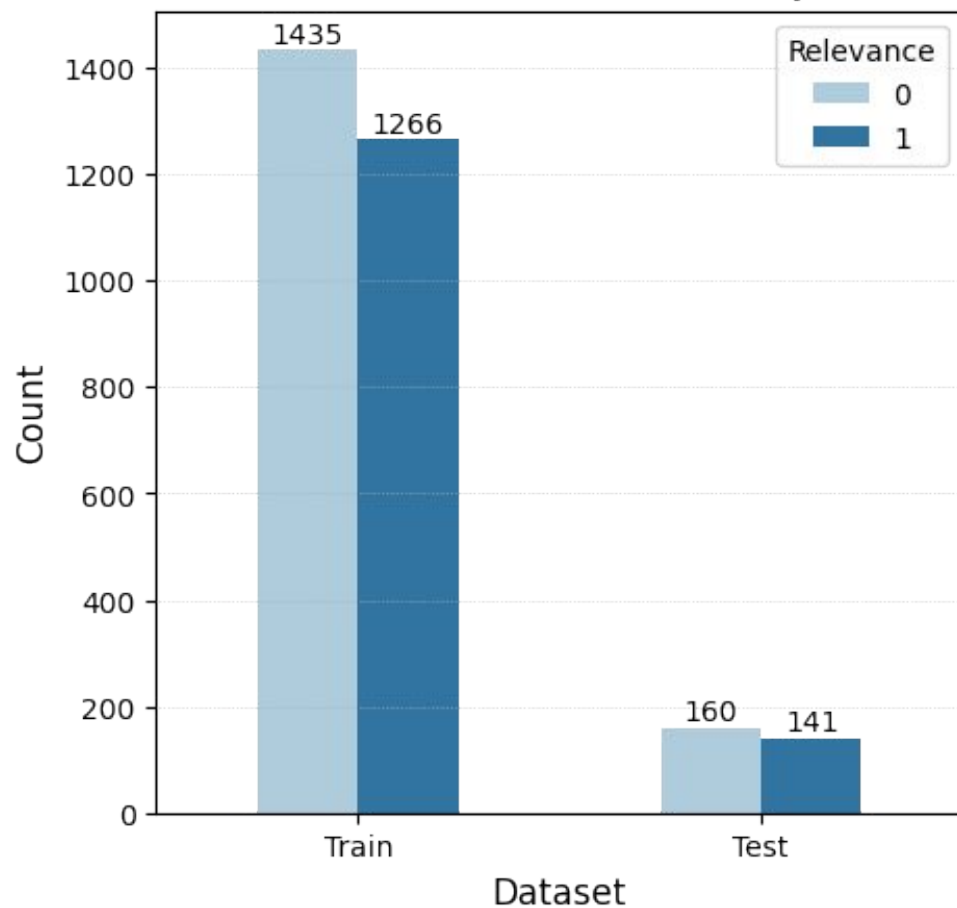
- pre trained in brazilian portuguese
- sentence textual similarity
- recognizing textual entailment
- name entity recognition

PREPARING THE DATA...

Class Distribution - Whole Dataset



Class Distribution - Train/Test Sets



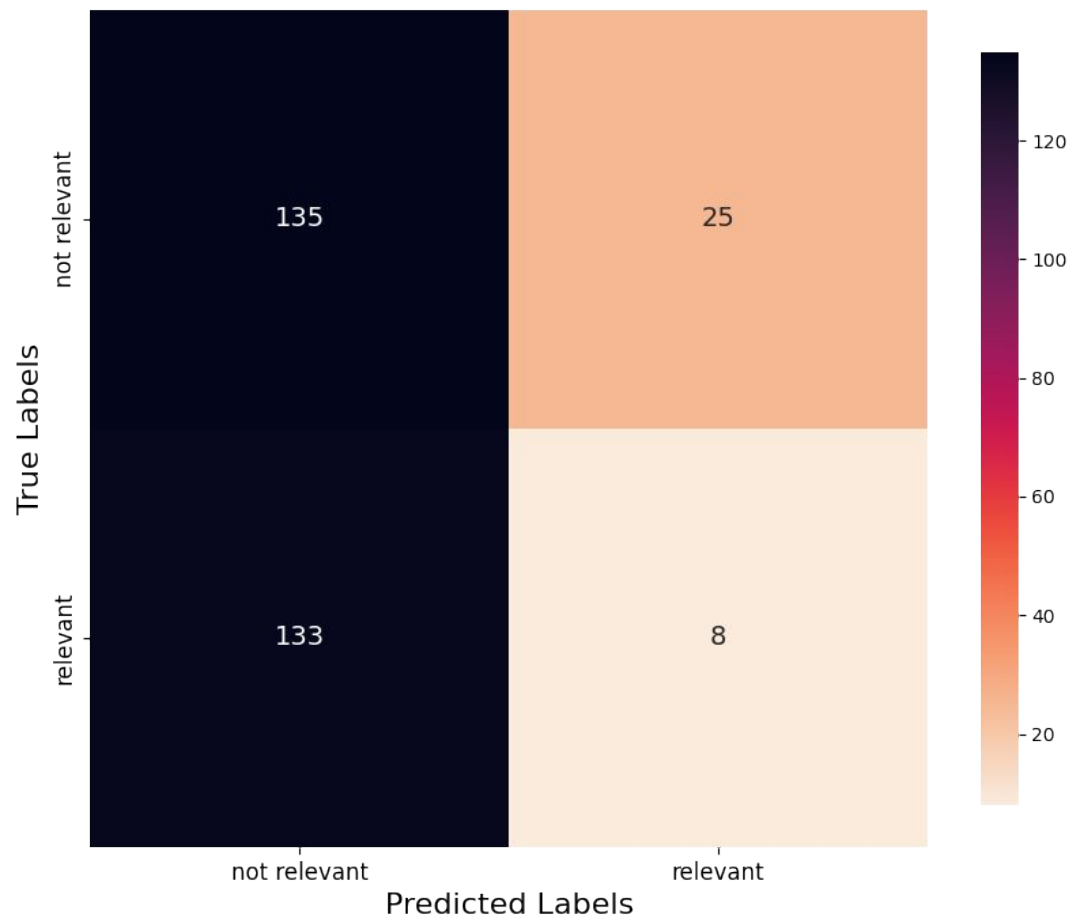
TEST BERTimbau...

BERTimbau Performance Before Fine-Tuning

	precision	recall	f1-score	support
0	0.5	0.84	0.63	160.0
1	0.24	0.06	0.09	141.0
macro avg	0.37	0.45	0.36	301.0
weighted avg	0.38	0.48	0.38	301.0

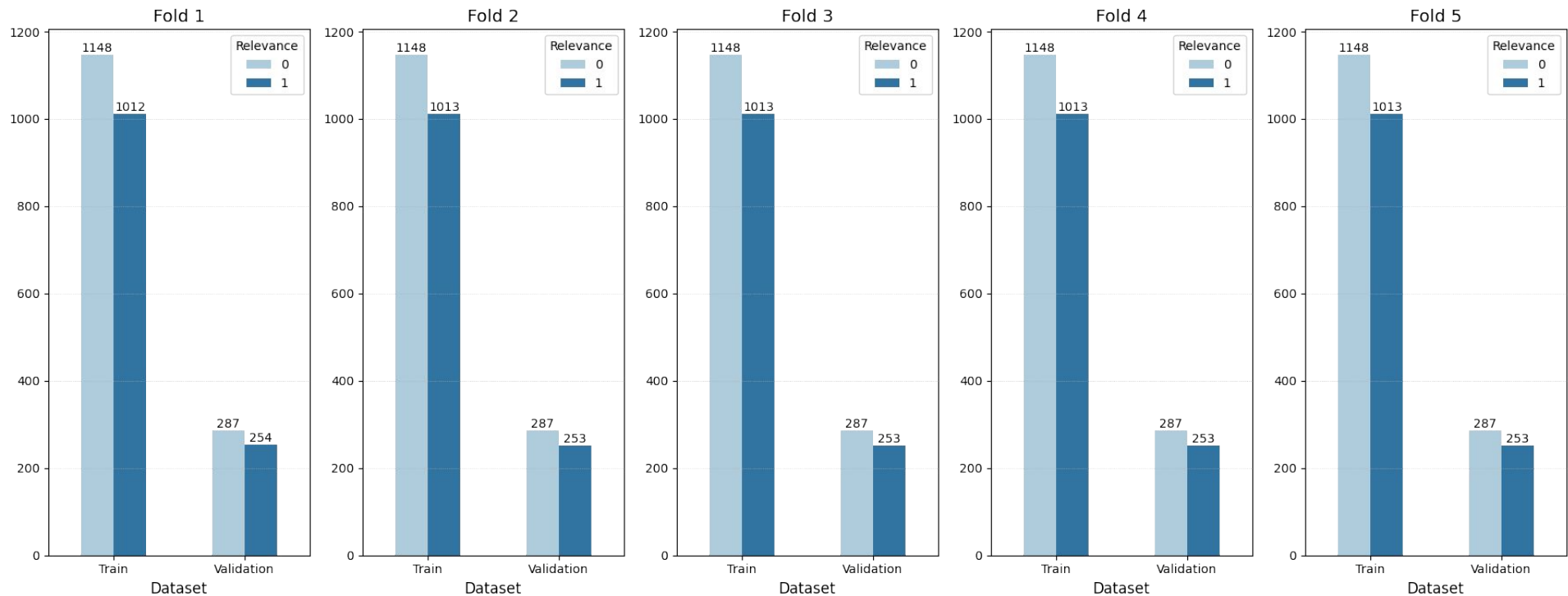
Overall Accuracy: 0.48

BERTimbau Performance Before Fine-Tuning

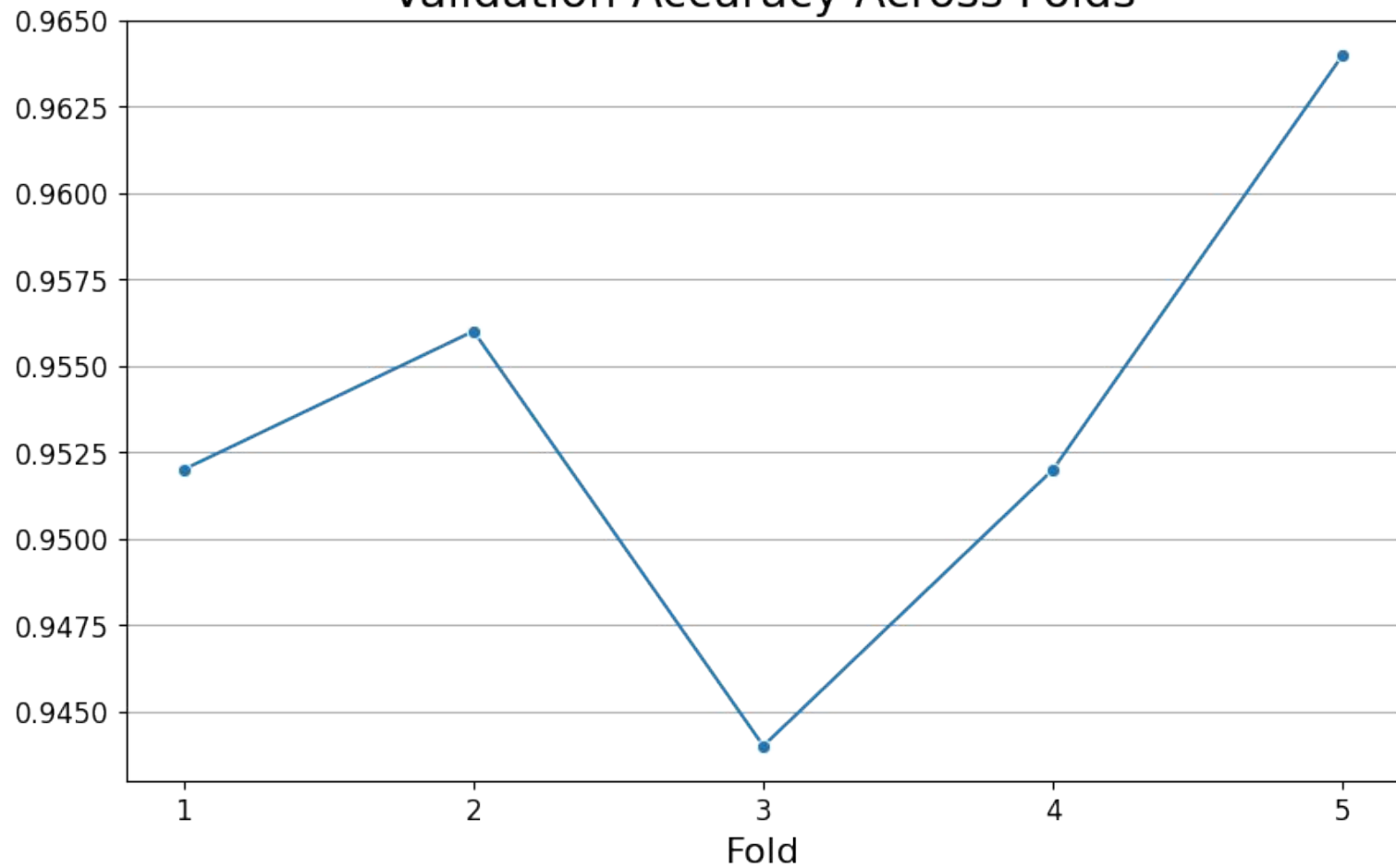


FINE TUNING...

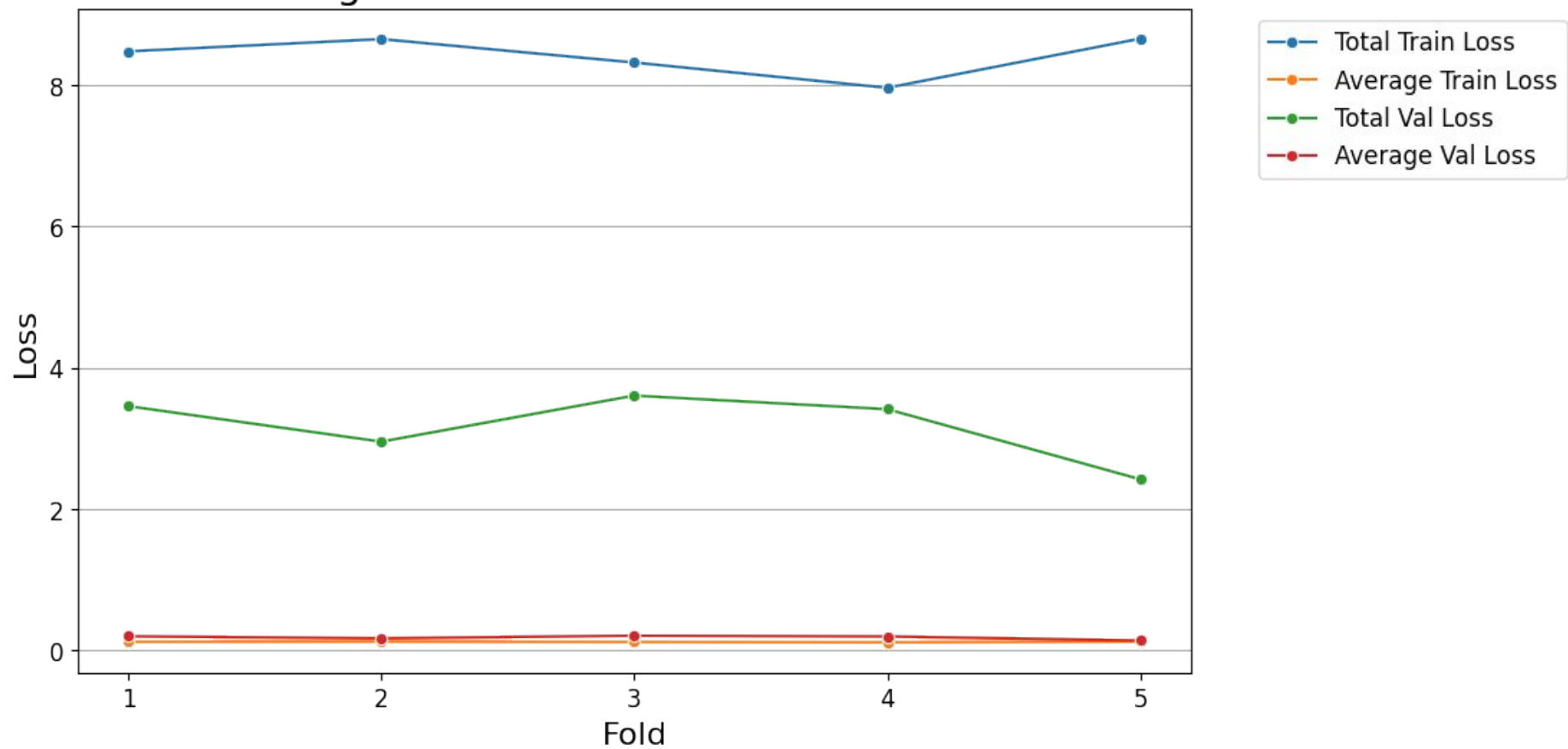
Class Distributions Across Folds



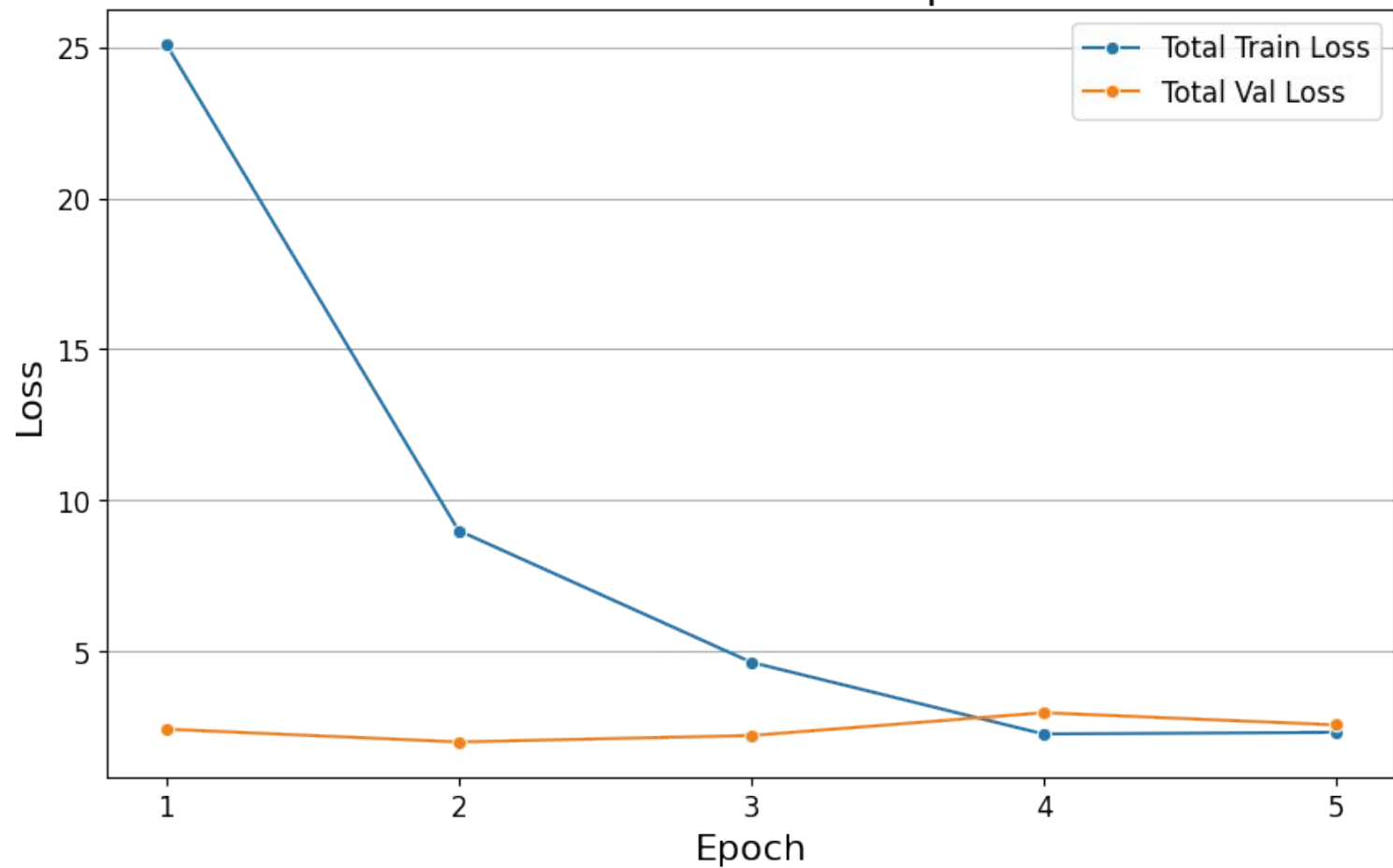
Validation Accuracy Across Folds



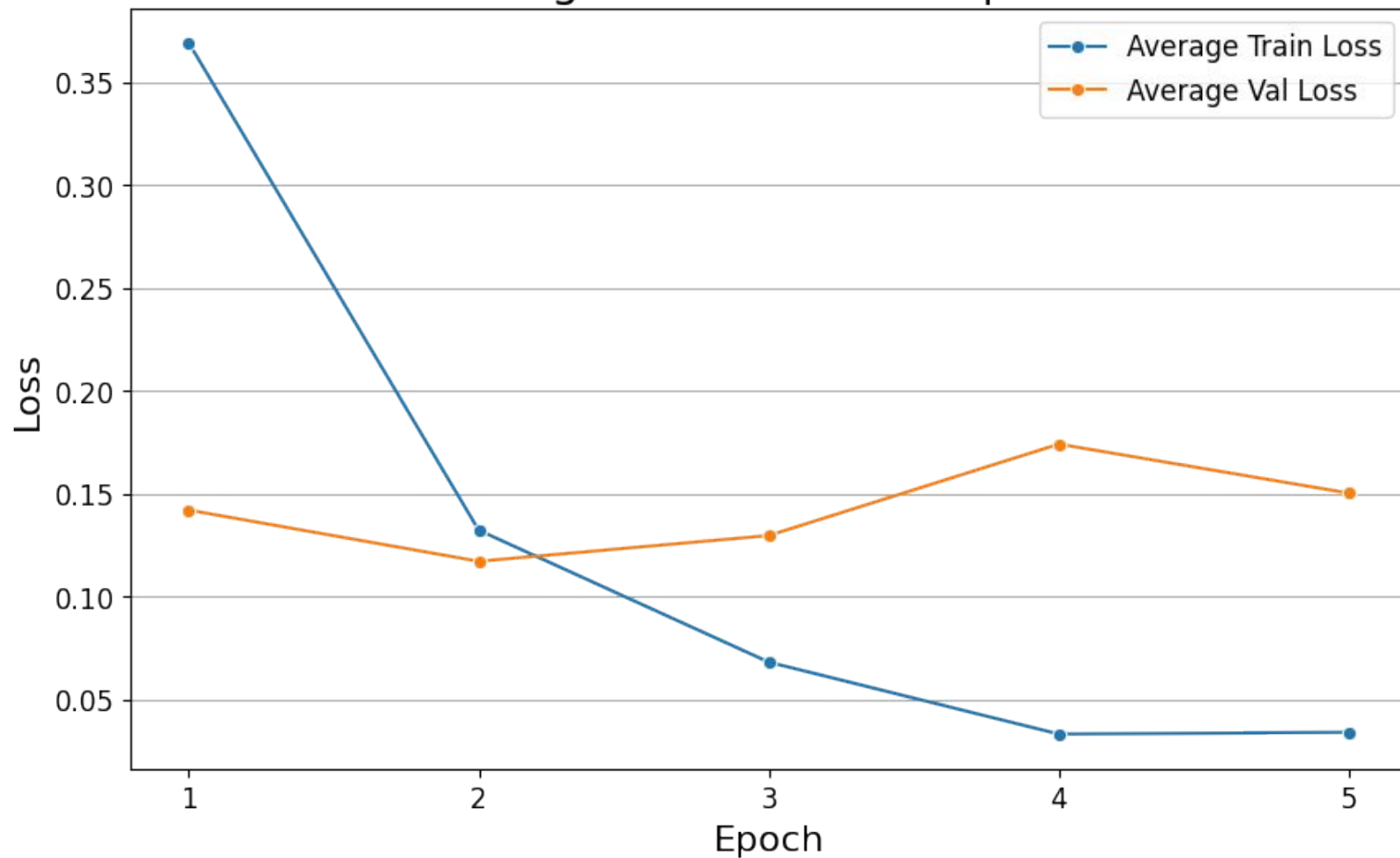
Training and Validation Losses Across Folds



Total Losses Across Epochs



Average Losses Across Epochs



TEST NEW MODEL...

BERTimbau Performance After Fine-Tuning

	precision	recall	f1-score	support
0	0.99	0.92	0.95	160.0
1	0.92	0.99	0.95	141.0
macro avg	0.95	0.96	0.95	301.0
weighted avg	0.96	0.95	0.95	301.0

Overall Accuracy: 0.95

BERTimbau Performance Before Fine-Tuning

	precision	recall	f1-score	support
0	0.5	0.84	0.63	160.0
1	0.24	0.06	0.09	141.0
macro avg	0.37	0.45	0.36	301.0
weighted avg	0.38	0.48	0.38	301.0

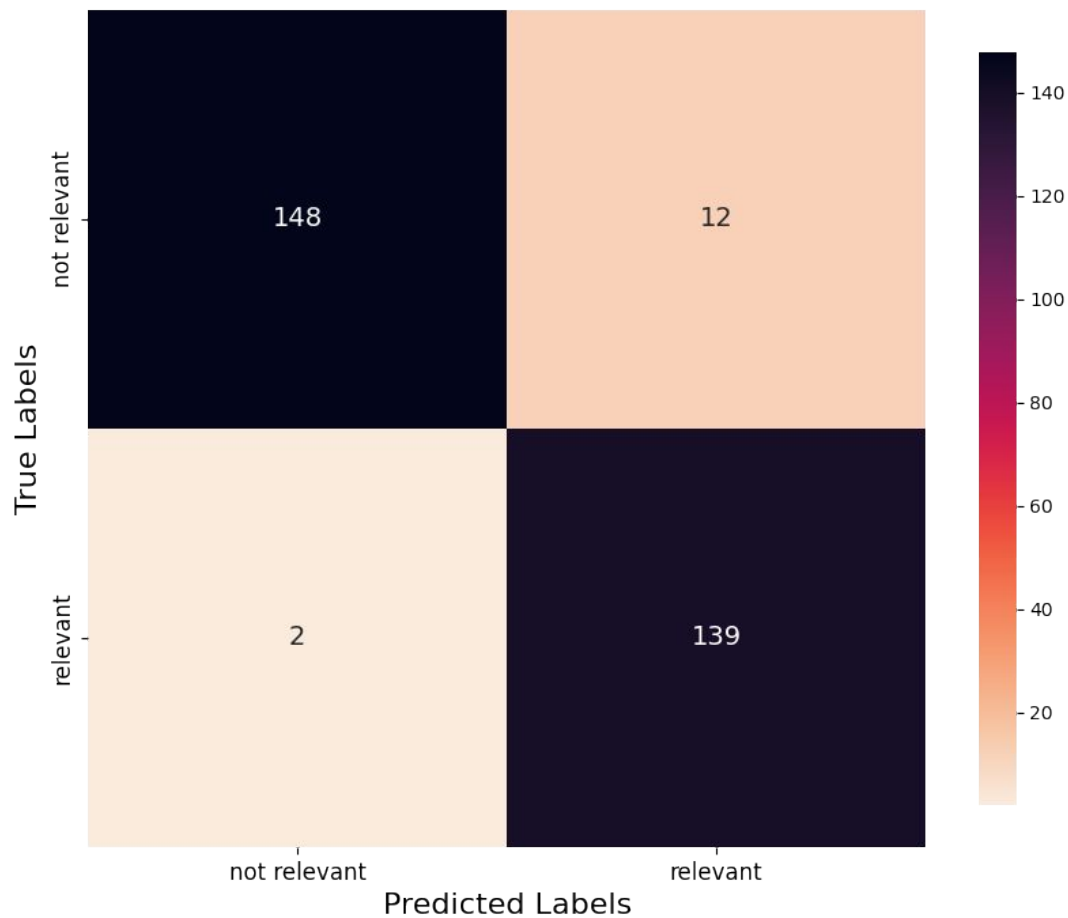
Overall Accuracy: 0.48

BERTimbau Performance After Fine-Tuning

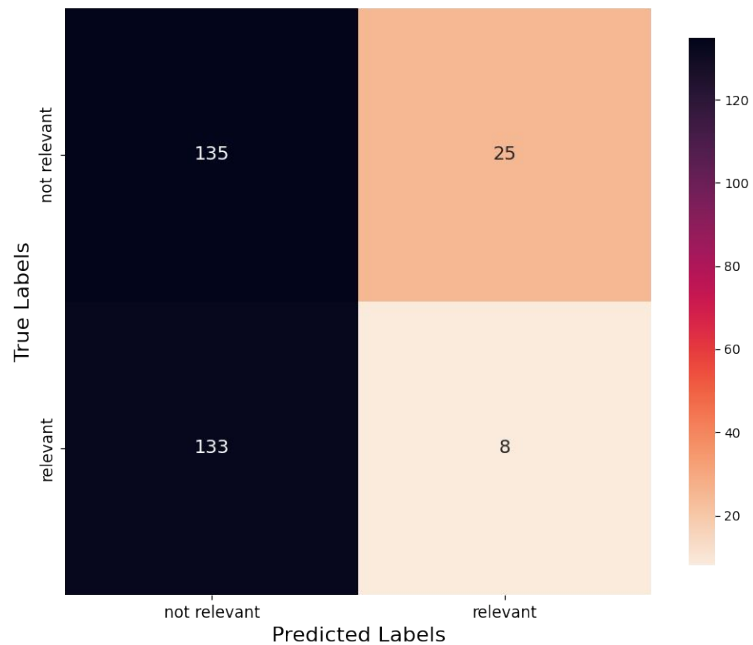
	precision	recall	f1-score	support
0	0.99	0.92	0.95	160.0
1	0.92	0.99	0.95	141.0
macro avg	0.95	0.96	0.95	301.0
weighted avg	0.96	0.95	0.95	301.0

Overall Accuracy: 0.95

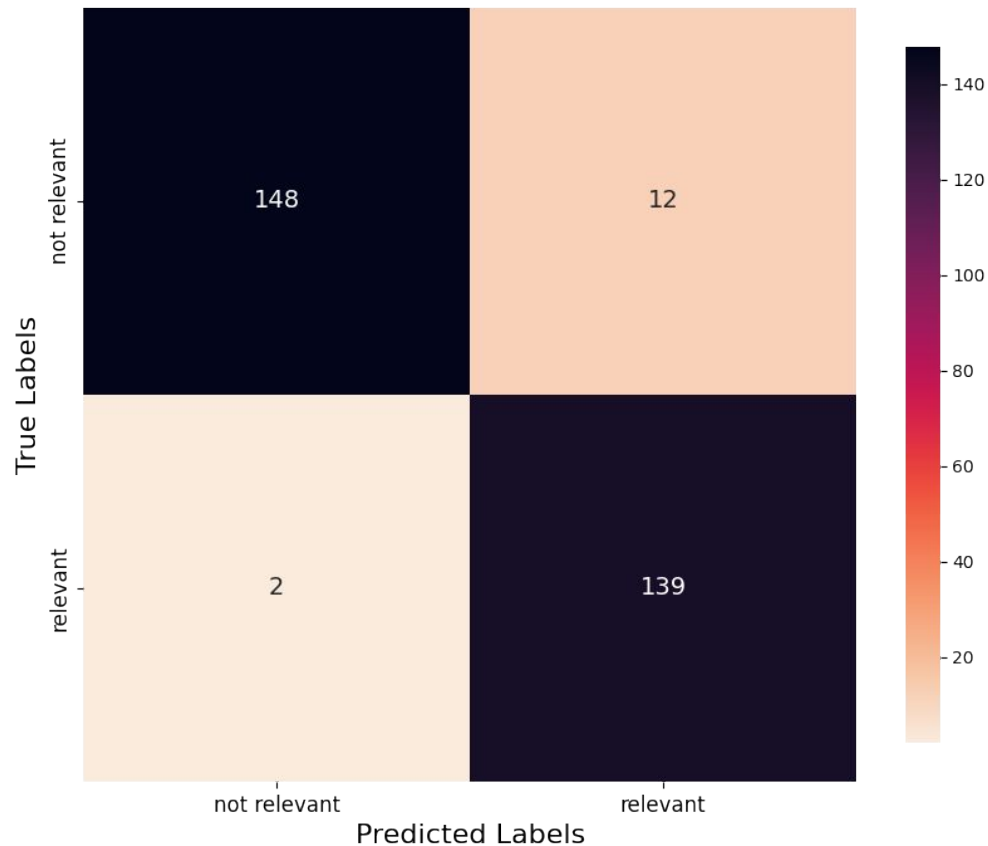
BERTimbau Performance After Fine-Tuning



BERTimbau Performance Before Fine-Tuning

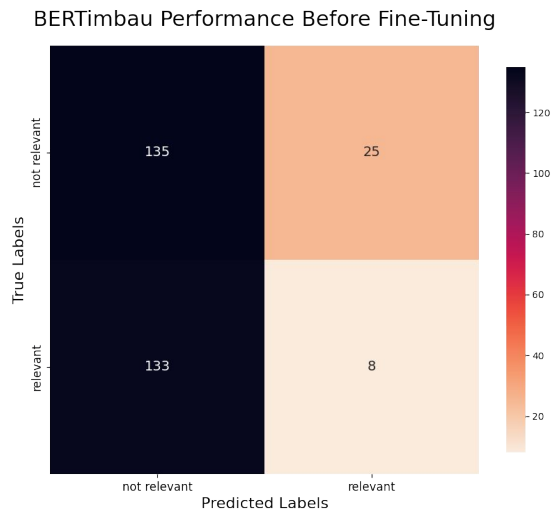


BERTimbau Performance After Fine-Tuning

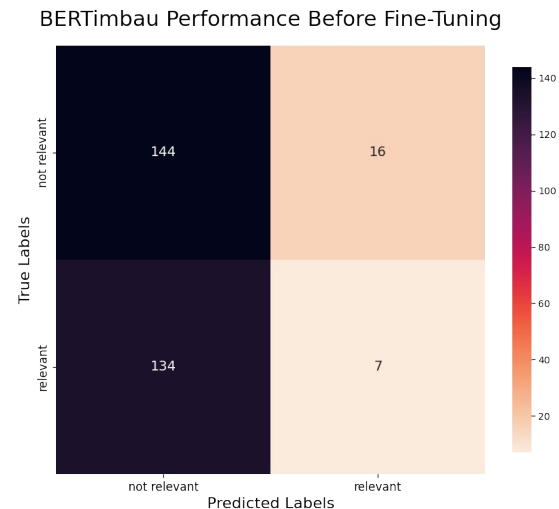


OTHER TRIALS...

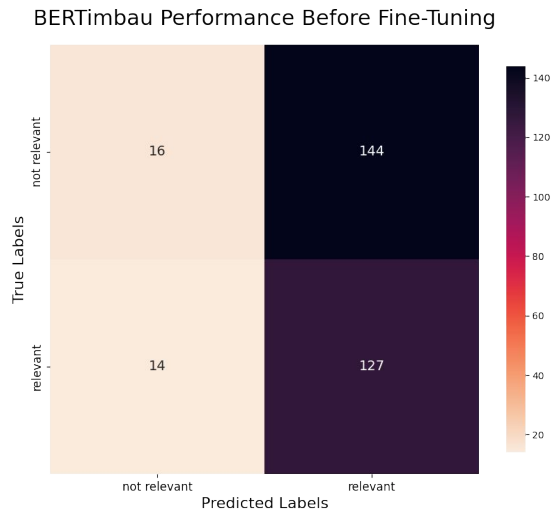
ROUND 1



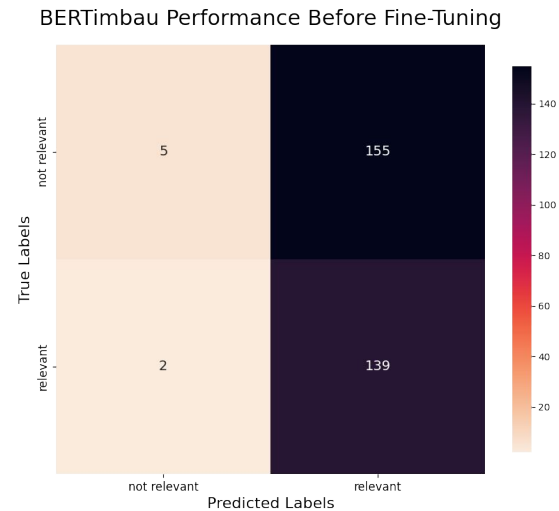
ROUND 2



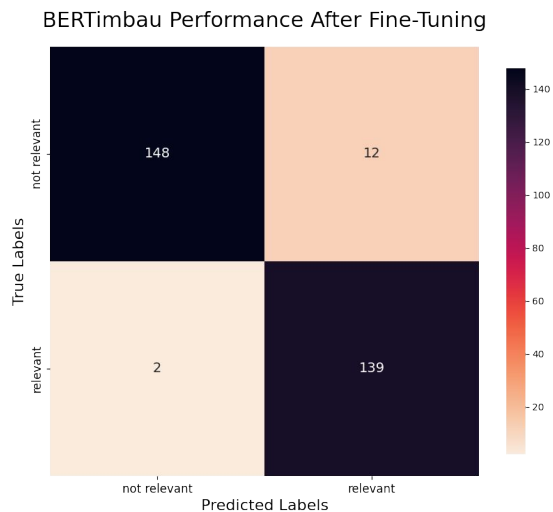
ROUND 3



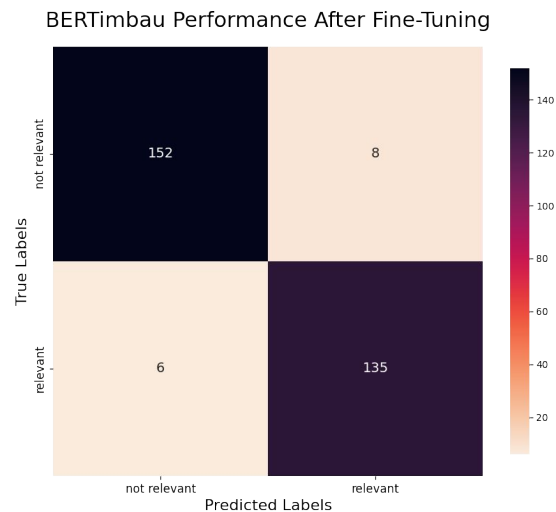
ROUND 4



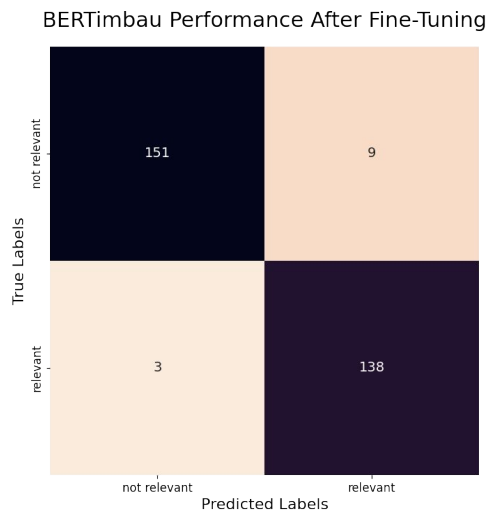
ROUND 1



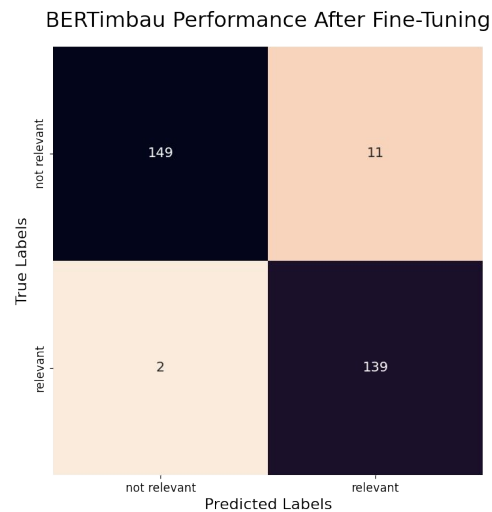
ROUND 2



ROUND 3



ROUND 4



ROUND 1

BERTimbau Performance Before Fine-Tuning

	precision	recall	f1-score	support
0	0.5	0.84	0.63	160.0
1	0.24	0.06	0.09	141.0
macro avg	0.37	0.45	0.36	301.0
weighted avg	0.38	0.48	0.38	301.0

Overall Accuracy: 0.48

ROUND 2

BERTimbau Performance Before Fine-Tuning

	precision	recall	f1-score	support
0	0.52	0.9	0.66	160.0
1	0.3	0.05	0.09	141.0
macro avg	0.41	0.47	0.37	301.0
weighted avg	0.42	0.5	0.39	301.0

Overall Accuracy: 0.5

ROUND 3

BERTimbau Performance Before Fine-Tuning

	precision	recall	f1-score	support
0	0.53	0.1	0.17	160.0
1	0.47	0.9	0.62	141.0
macro avg	0.5	0.5	0.39	301.0
weighted avg	0.5	0.48	0.38	301.0

Overall Accuracy: 0.48

ROUND 4

BERTimbau Performance Before Fine-Tuning

	precision	recall	f1-score	support
0	0.71	0.03	0.06	160.0
1	0.47	0.99	0.64	141.0
macro avg	0.59	0.51	0.35	301.0
weighted avg	0.6	0.48	0.33	301.0

Overall Accuracy: 0.48

ROUND 1

BERTimbau Performance After Fine-Tuning

	precision	recall	f1-score	support
0	0.99	0.92	0.95	160.0
1	0.92	0.99	0.95	141.0
macro avg	0.95	0.96	0.95	301.0
weighted avg	0.96	0.95	0.95	301.0

Overall Accuracy: 0.95

ROUND 2

BERTimbau Performance After Fine-Tuning

	precision	recall	f1-score	support
0	0.96	0.95	0.96	160.0
1	0.94	0.96	0.95	141.0
macro avg	0.95	0.95	0.95	301.0
weighted avg	0.95	0.95	0.95	301.0

Overall Accuracy: 0.95

ROUND 3

BERTimbau Performance After Fine-Tuning

	precision	recall	f1-score	support
0	0.98	0.94	0.96	160.0
1	0.94	0.98	0.96	141.0
macro avg	0.96	0.96	0.96	301.0
weighted avg	0.96	0.96	0.96	301.0

Overall Accuracy: 0.96

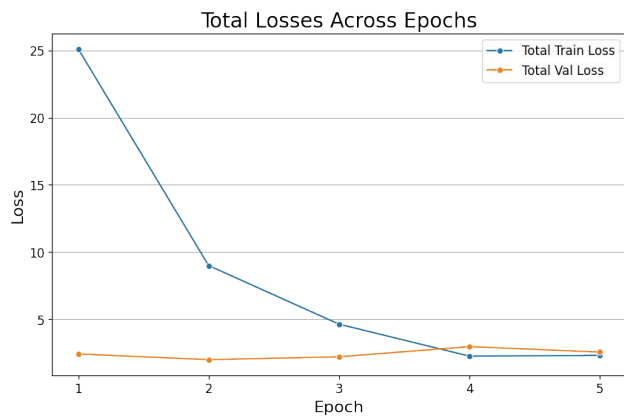
ROUND 4

BERTimbau Performance After Fine-Tuning

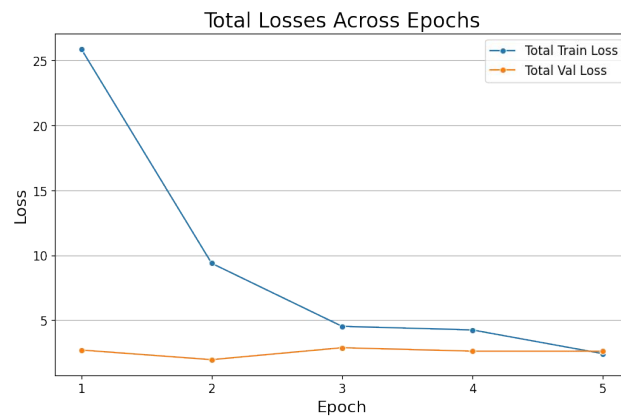
	precision	recall	f1-score	support
0	0.99	0.93	0.96	160.0
1	0.93	0.99	0.96	141.0
macro avg	0.96	0.96	0.96	301.0
weighted avg	0.96	0.96	0.96	301.0

Overall Accuracy: 0.96

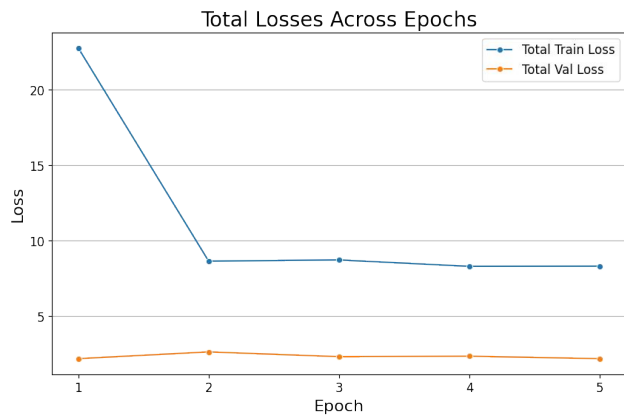
ROUND 1



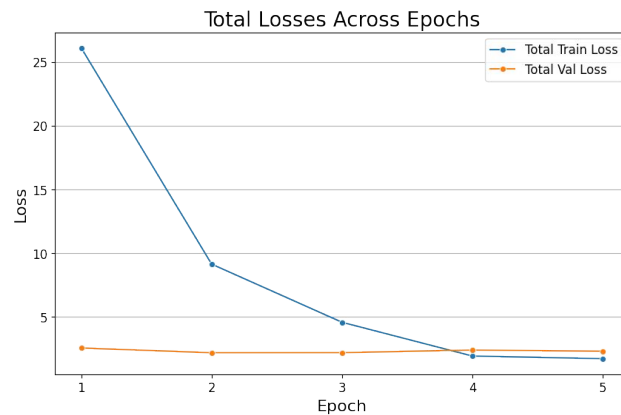
ROUND 2



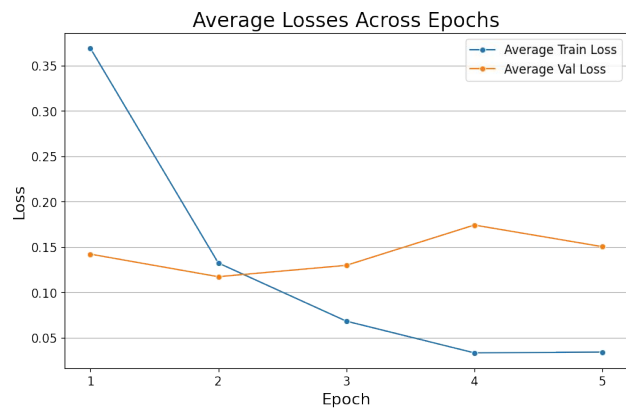
ROUND 3



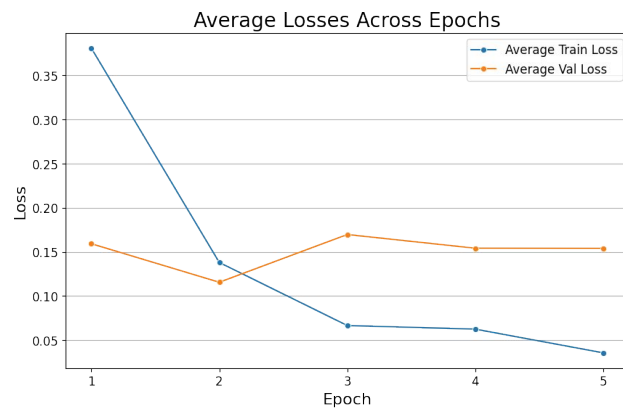
ROUND 4



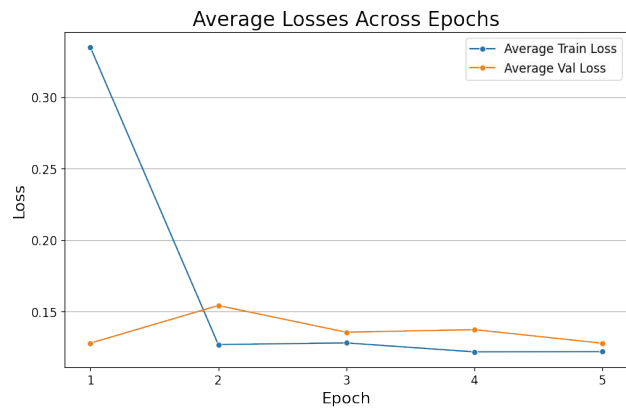
ROUND 1



ROUND 2



ROUND 3



ROUND 4

