Model Training Documentation

March 2, 2025

1 Models Comparision

| Model Name	Accuracy	F1	Precision	Recall
Roberta	0.7442	0.7302	0.7246	0.7442
ALBERT	0.7222	0.6842	0.6605	0.7222
BertBase	0.7667	0.7548	0.7512	0.7667
DistilBERT	0.7218	0.6789	0.6955	0.7218
ELECTRA	0.7361	0.7118	0.6941	0.7361
XLNET	0.7373	0.7186	0.7146	0.7373

Table 1: Comparison of Model Performance

2 Output (RoBERTa)

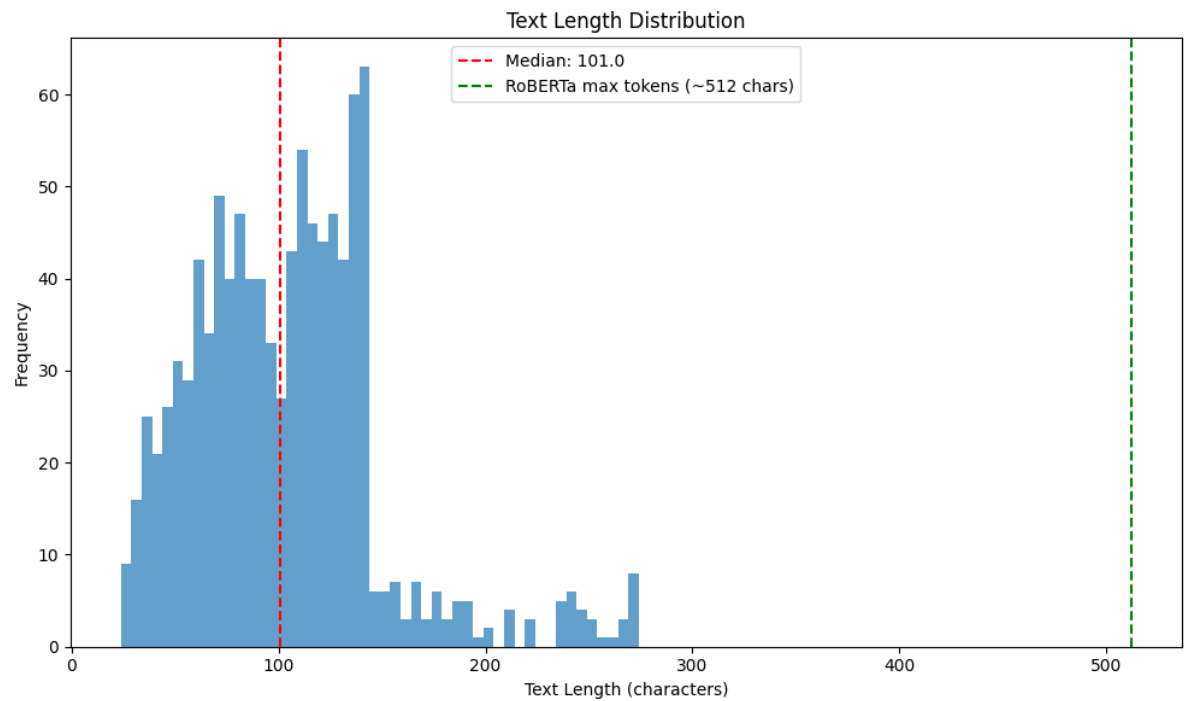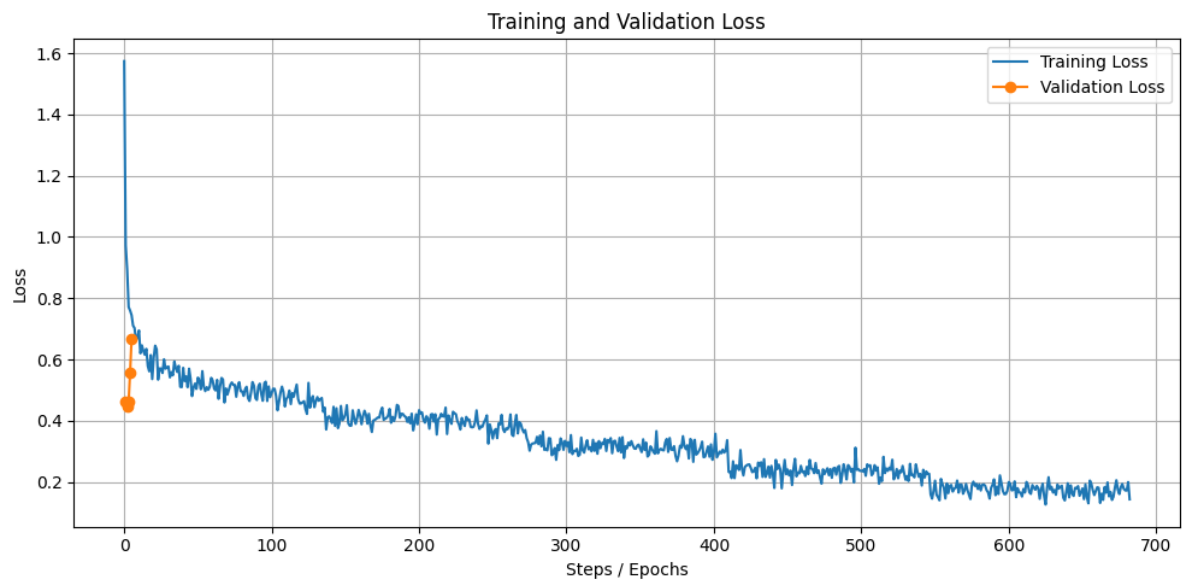### 2.1 Hyperparameter Importances

2.2 Text Length by Disaster Type
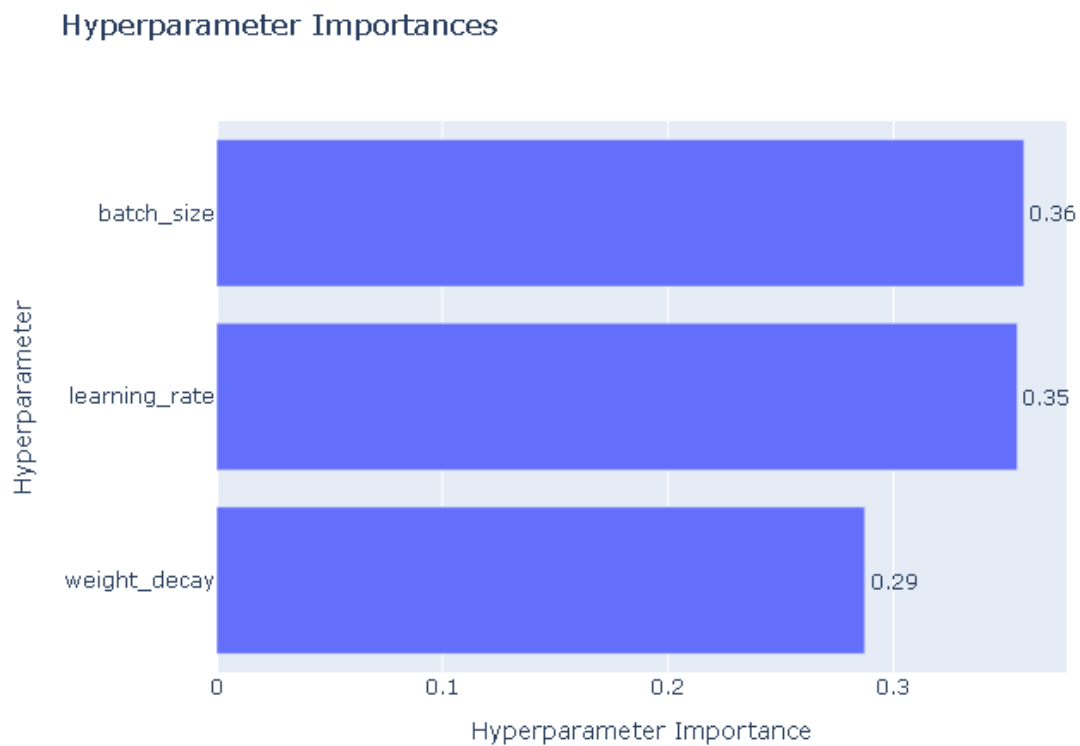
Text Length by Disaster Type
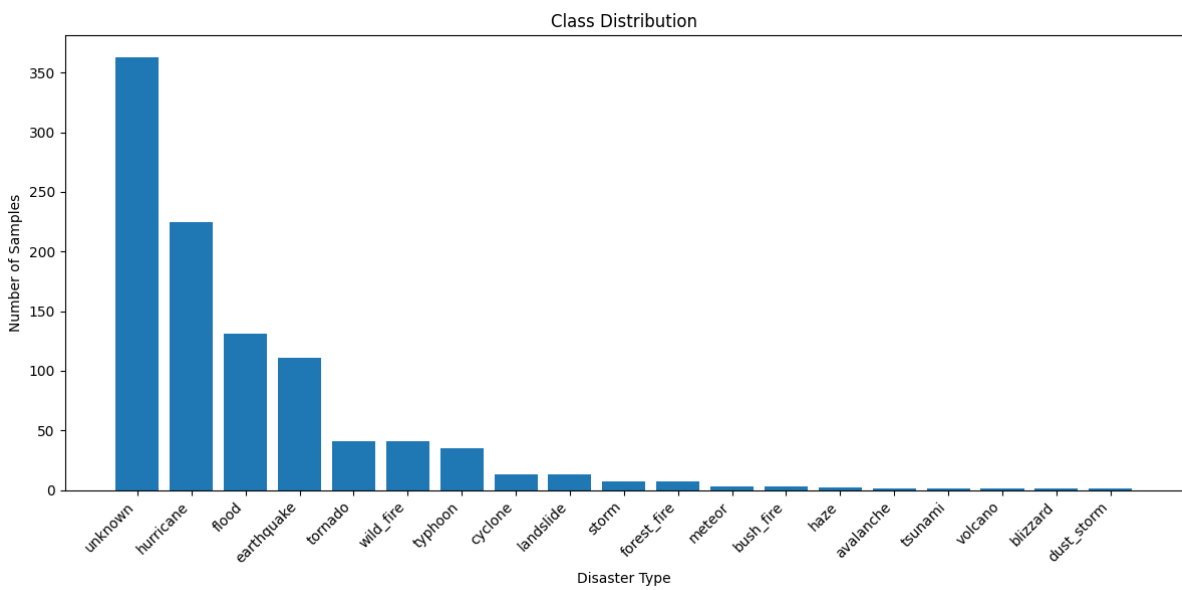
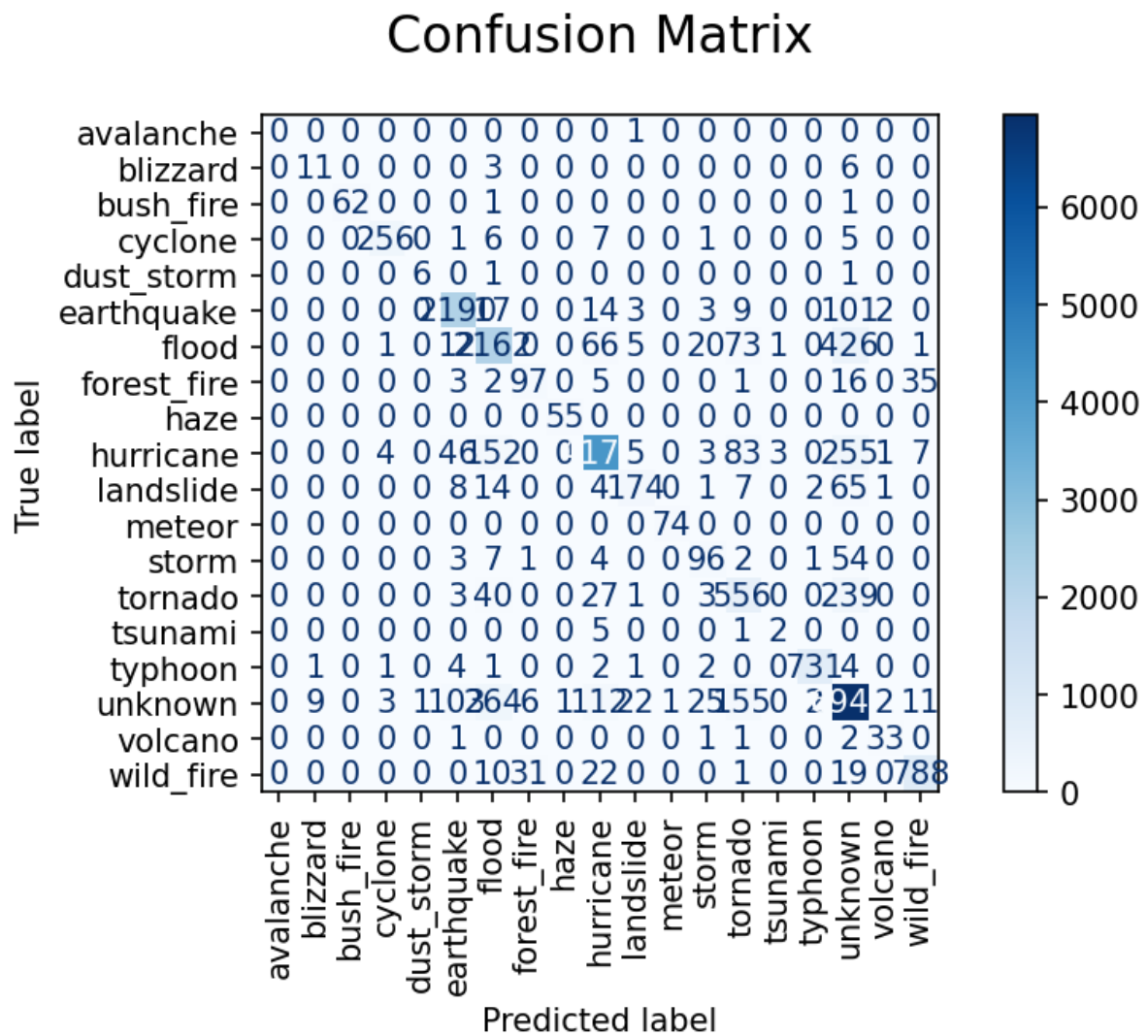## 2.3 Text Length Distribution
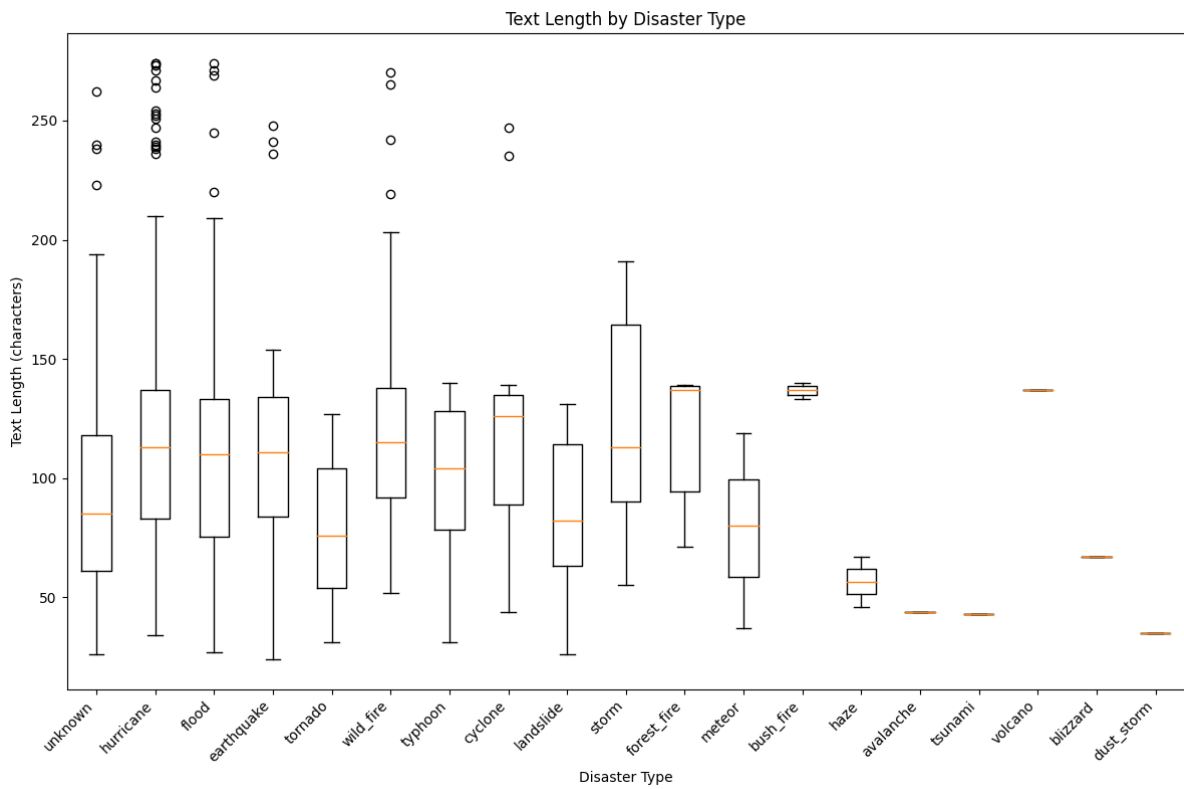
Text Length Distribution

2.4 Training and Validation Loss

2.5 Class Distribution

2.6 Confusion Matrix

Confusion Matrix

2.7 F1 Score Progression

F1 Score Progression
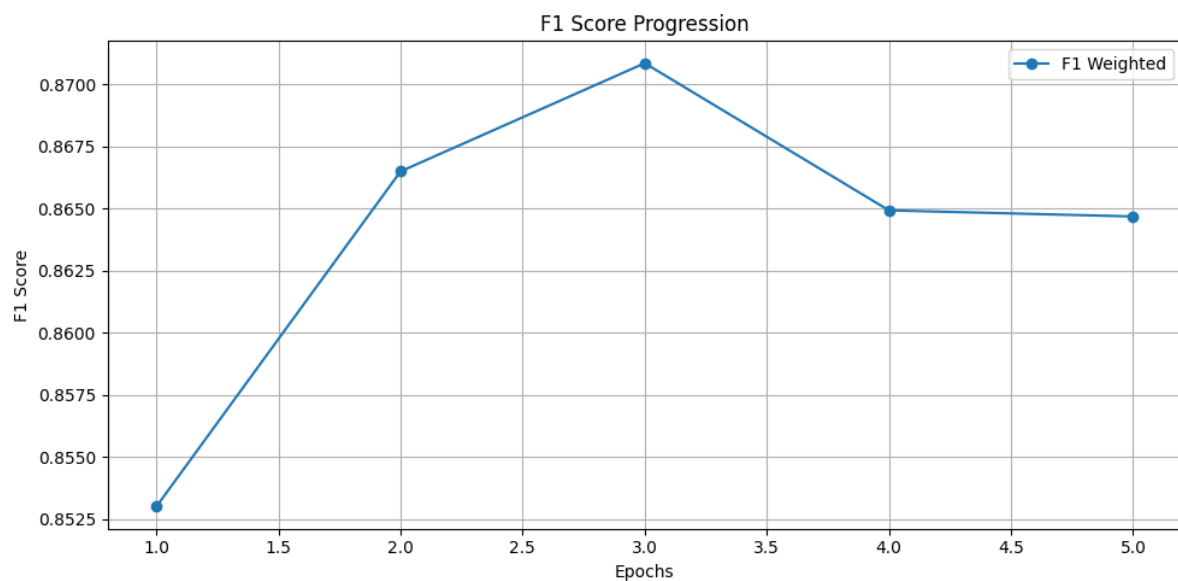
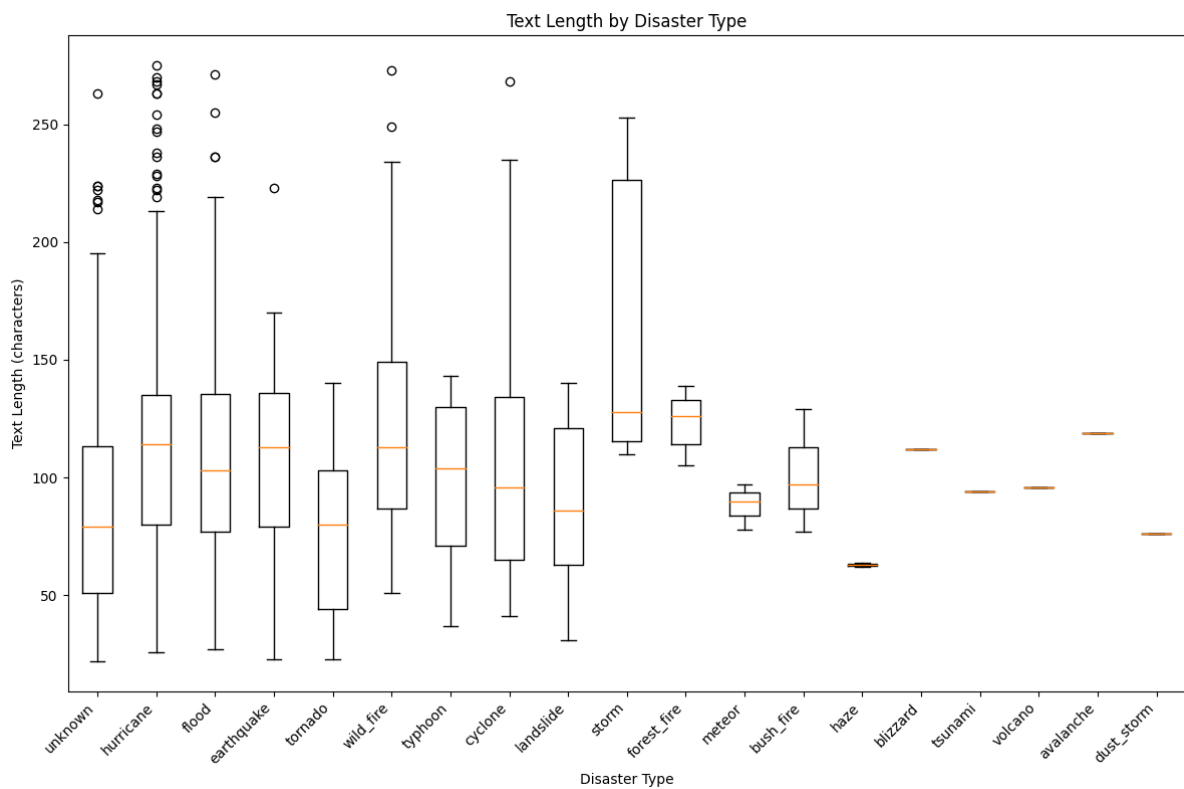## 2.8 Optimization History Plot
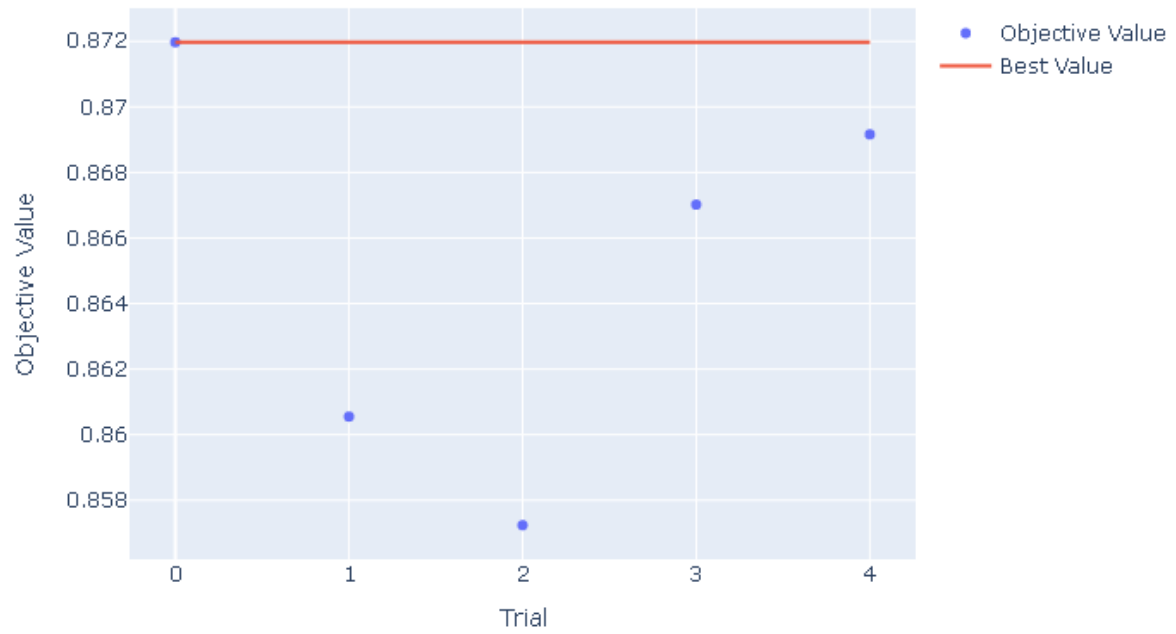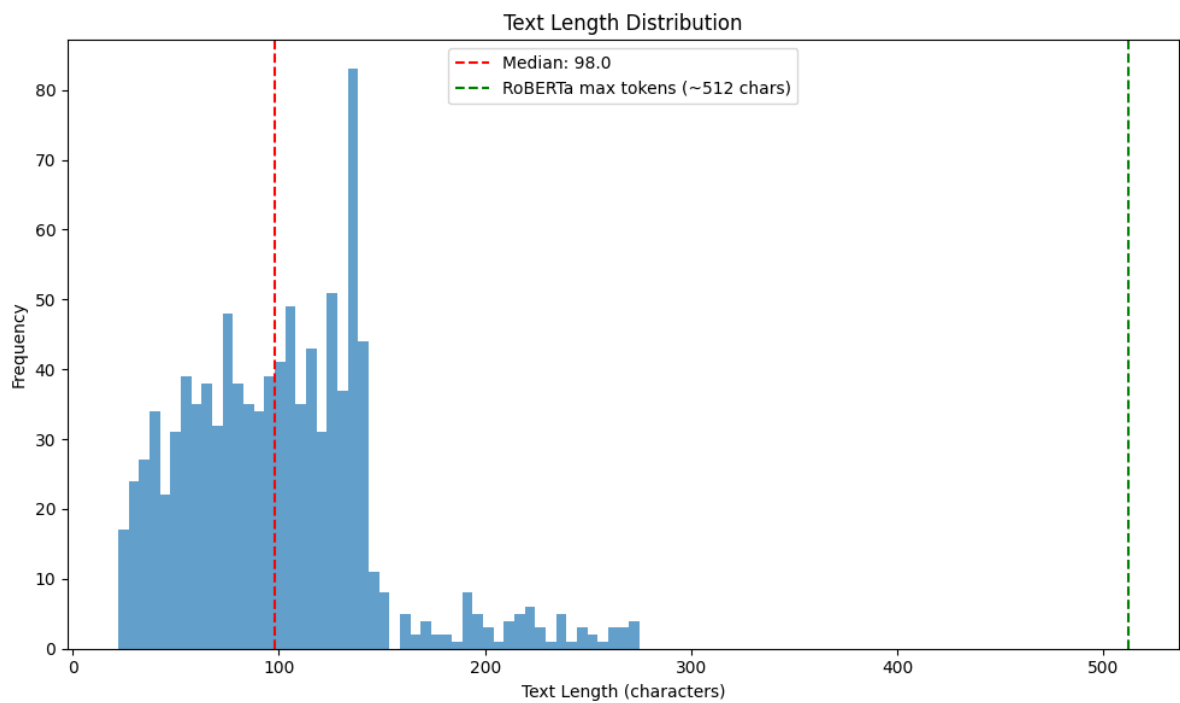
3 Output (ALBERT)

3.1 Hyperparameter Importances

Hyperparameter Importances

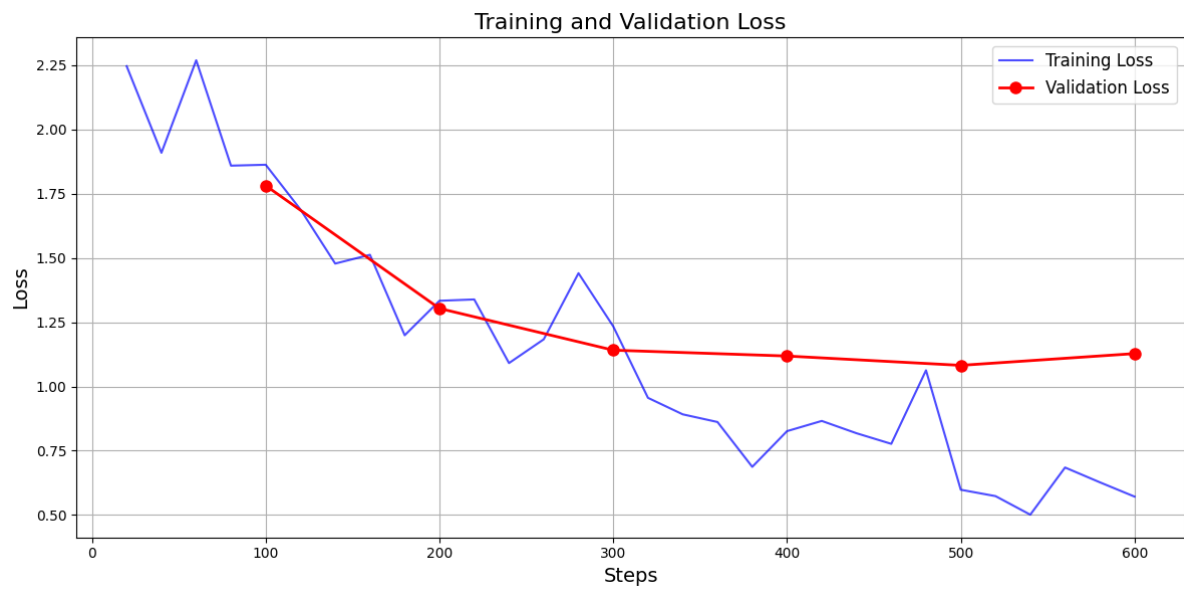## 3.2 Text Length by Disaster Type
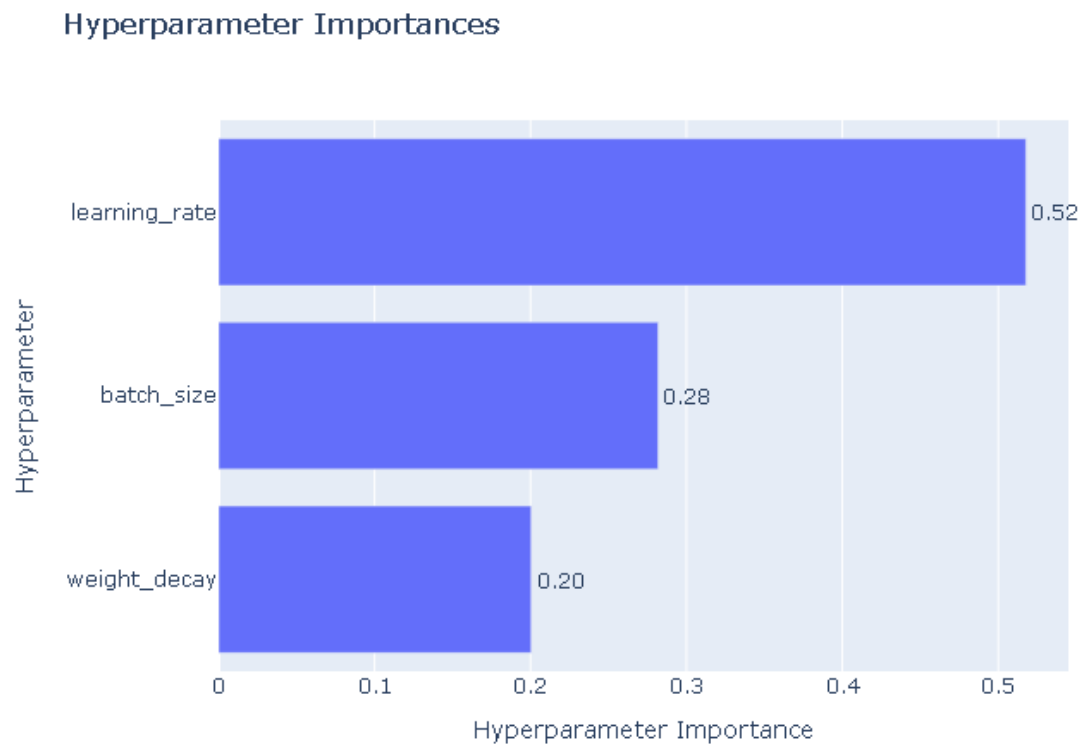
Text Length by Disaster Type

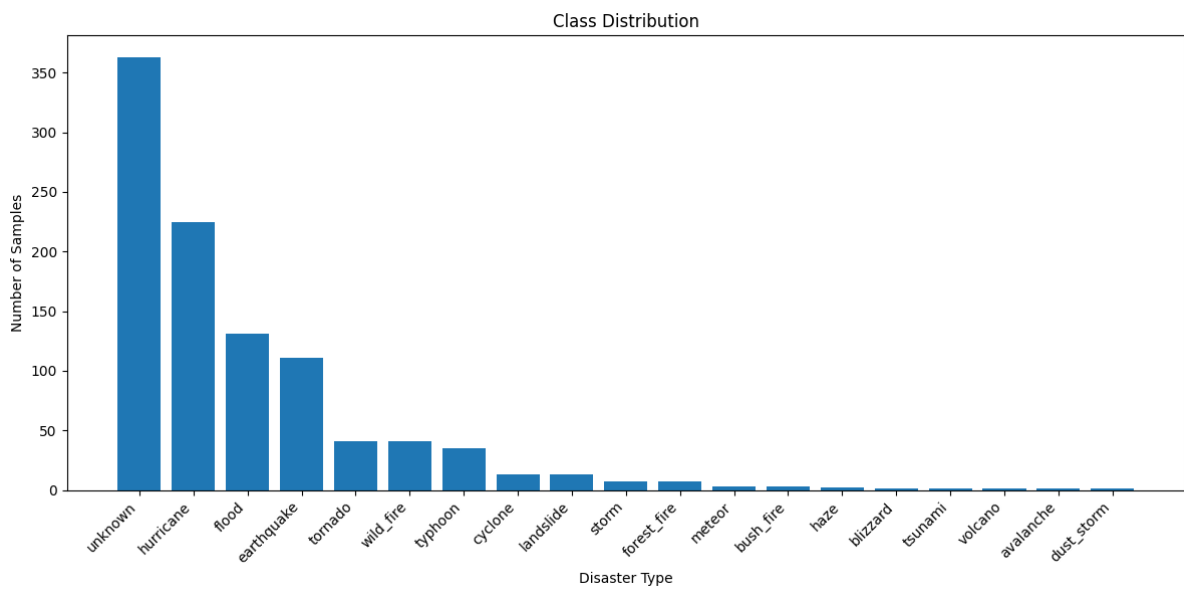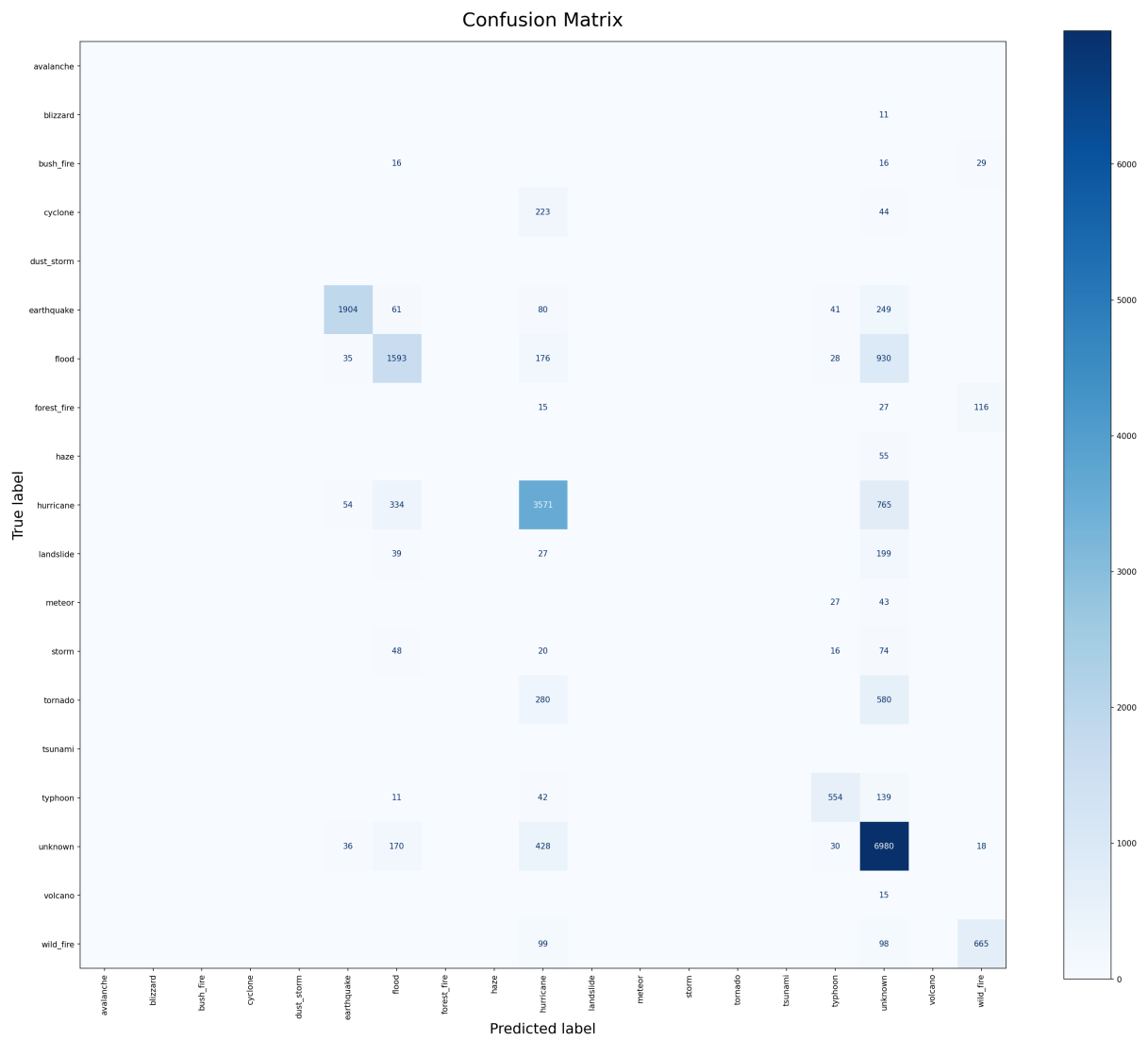## 3.3 Text Length Distribution

Text Length Distribution

3.4 Training and Validation Loss

3.5 Class Distribution

3.6 Confusion Matrix

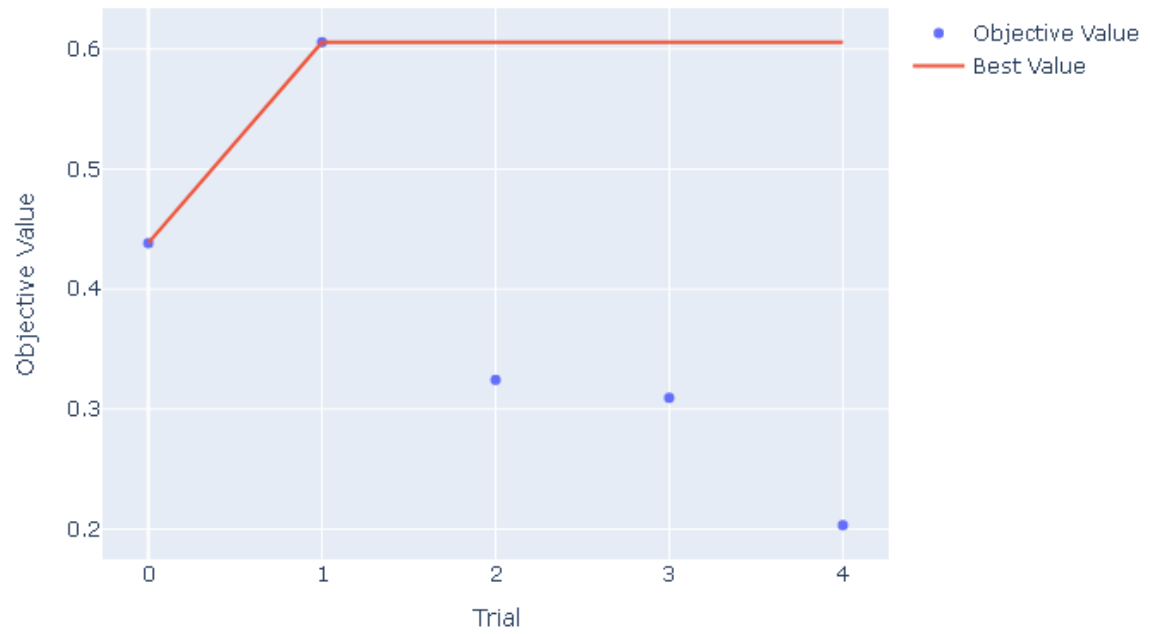Confusion Matrix

3.7 F1 Score Progression

F1 Score Progression
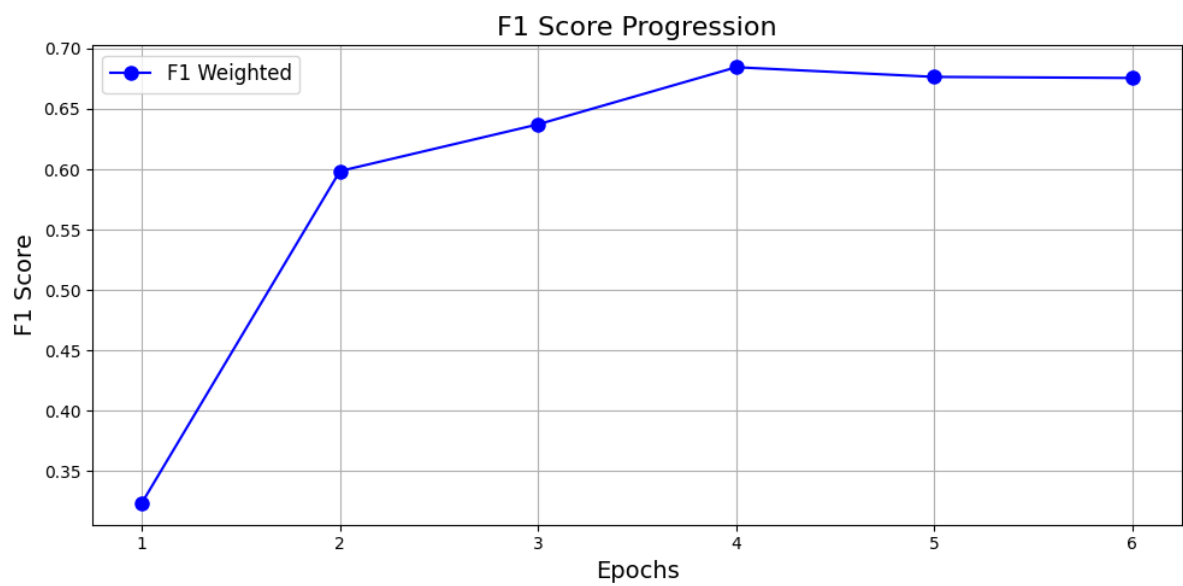
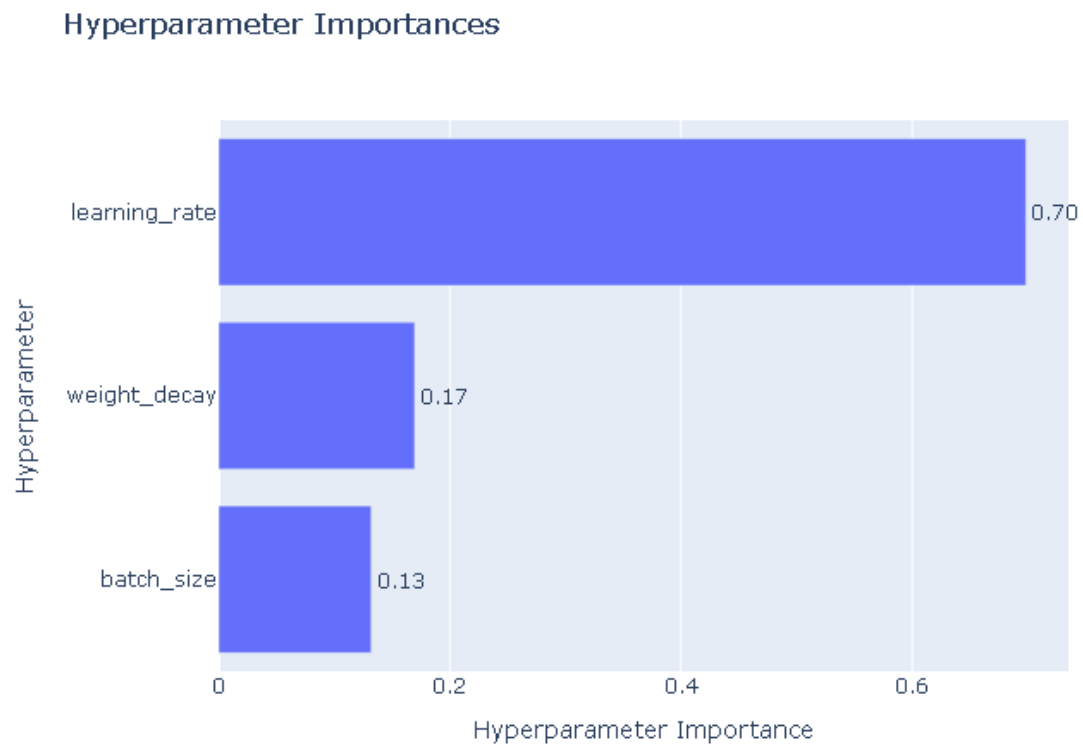## 3.8 Optimization History Plot

Optimization History Plot

4 Output (BertBase)

4.1 Hyperparameter Importances

Hyperparameter Importances

4.2 Text Length by Disaster Type

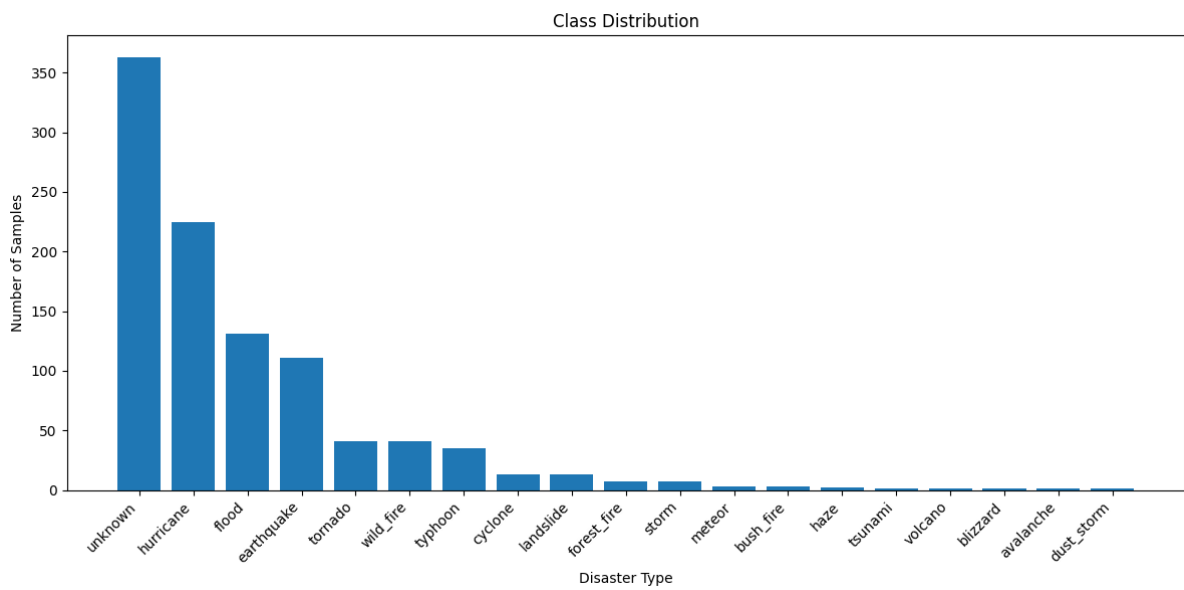Text Length by Disaster Type

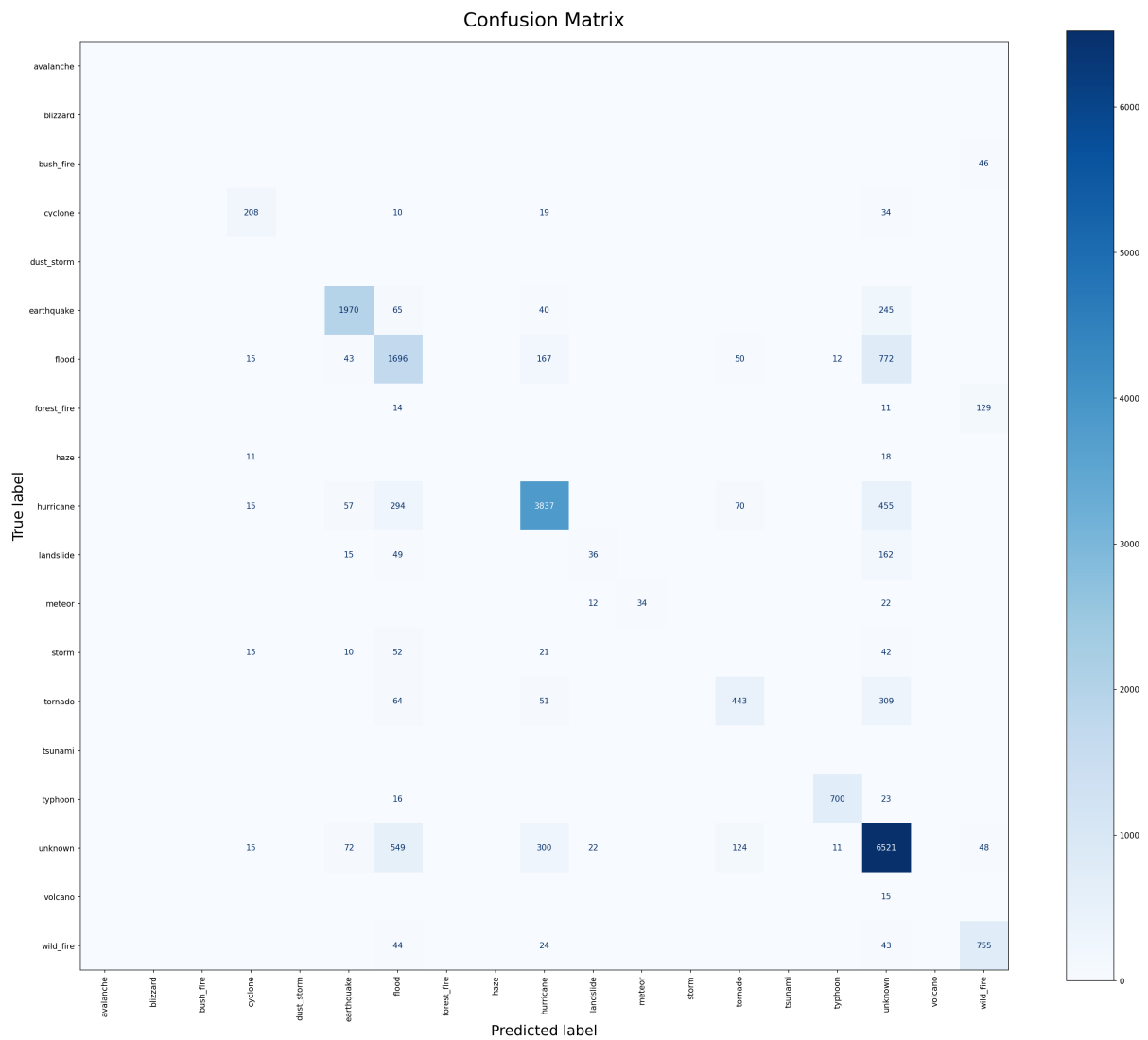## 4.3 Text Length Distribution
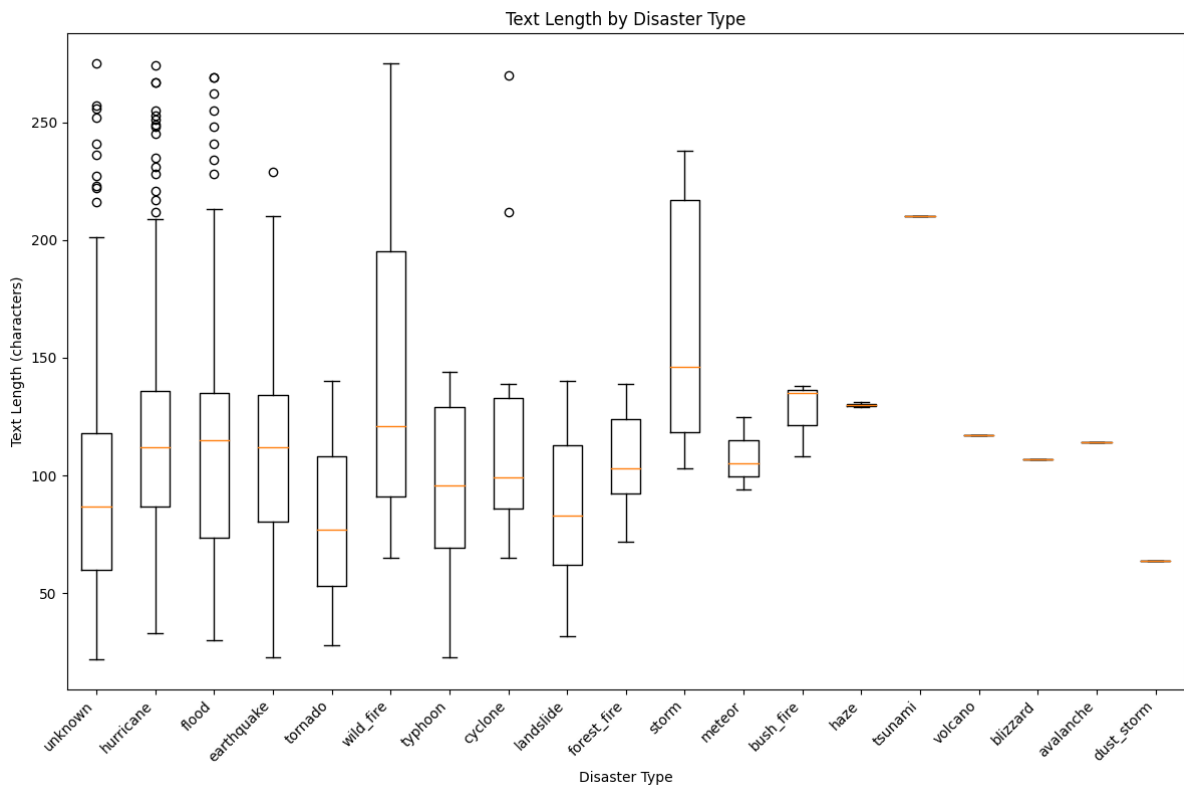
Text Length Distribution
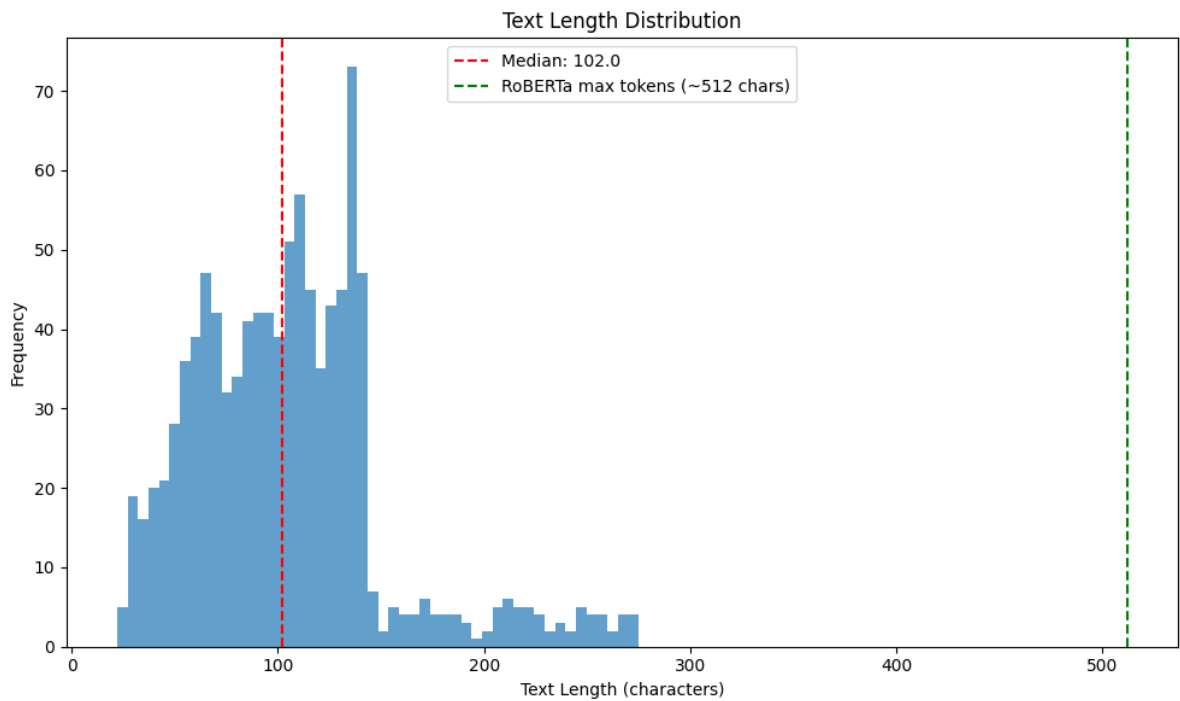
4.4 Training and Validation Loss

4.5 Class Distribution

4.6 Confusion Matrix

Confusion Matrix

4.7 F1 Score Progression

F1 Score Progression
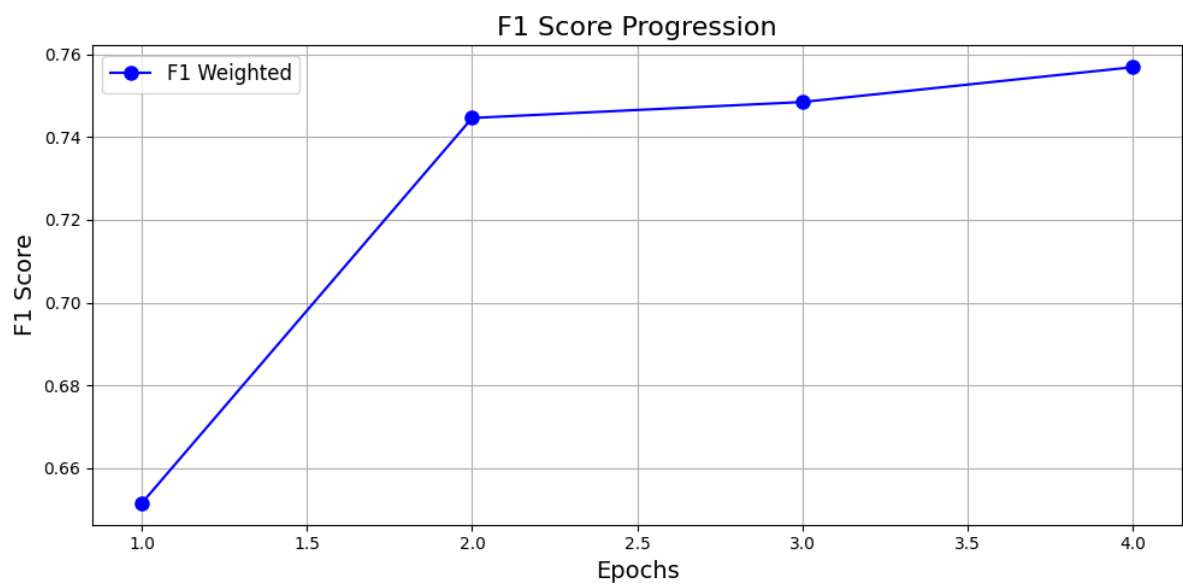
4.8   Optimization History Plot

Optimization History Plot

5 Output (distilBERT)

5.1 Hyperparameter Importances

Hyperparameter Importances

5.2 Text Length by Disaster Type

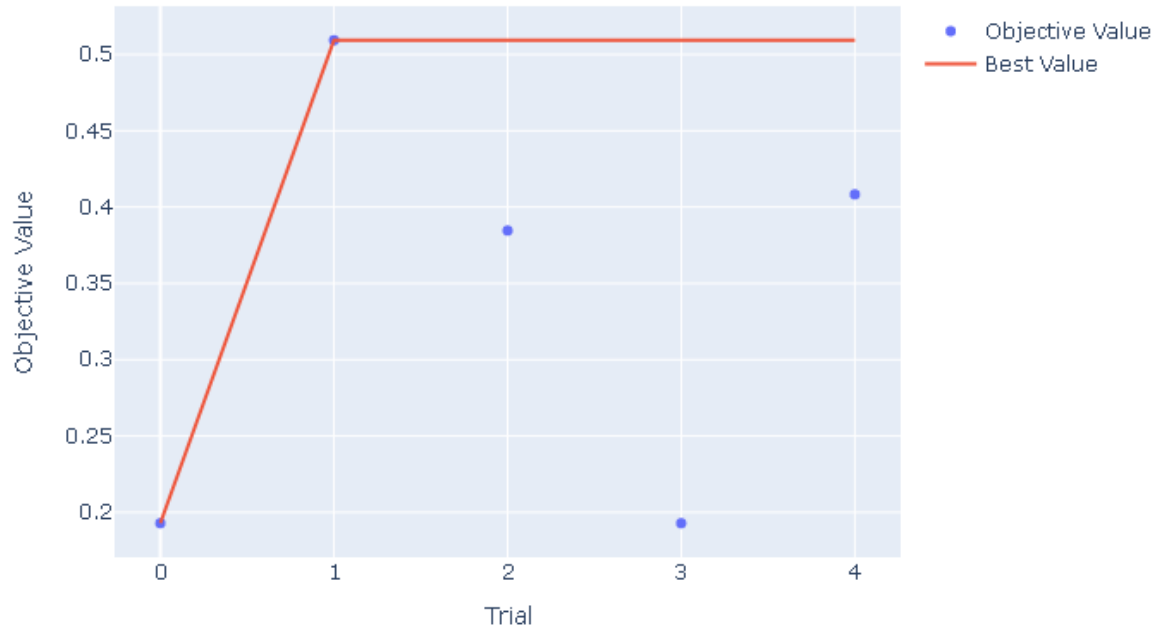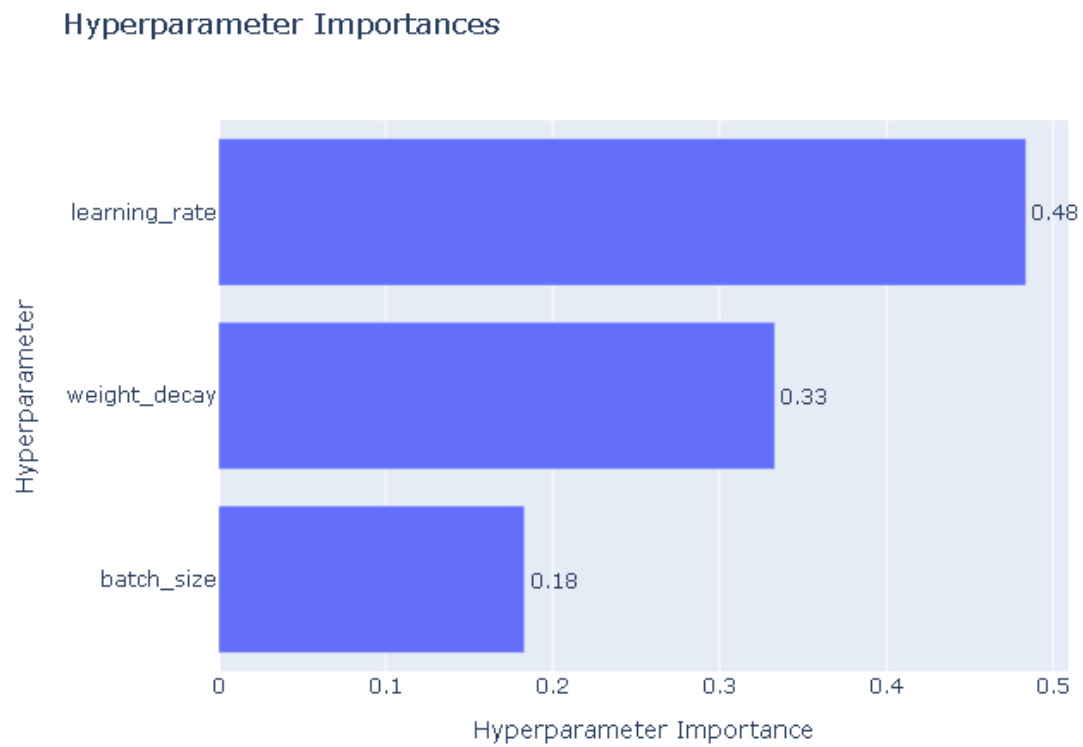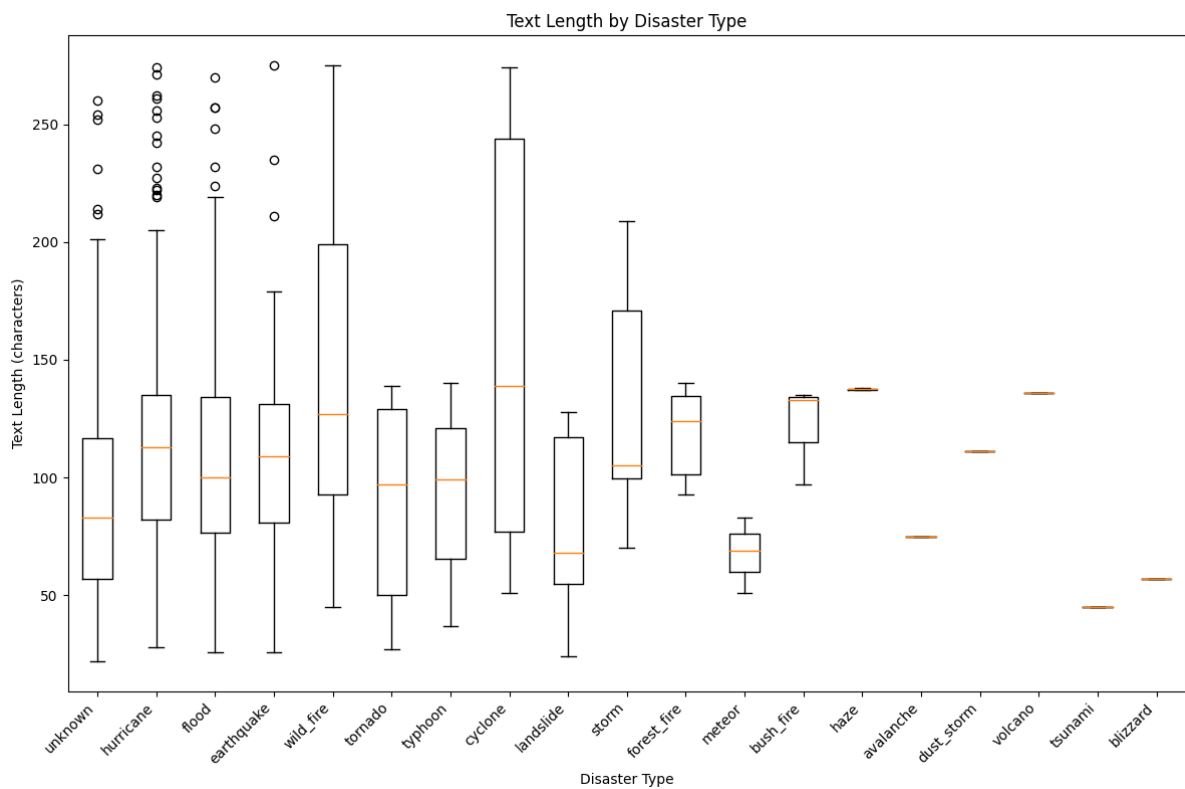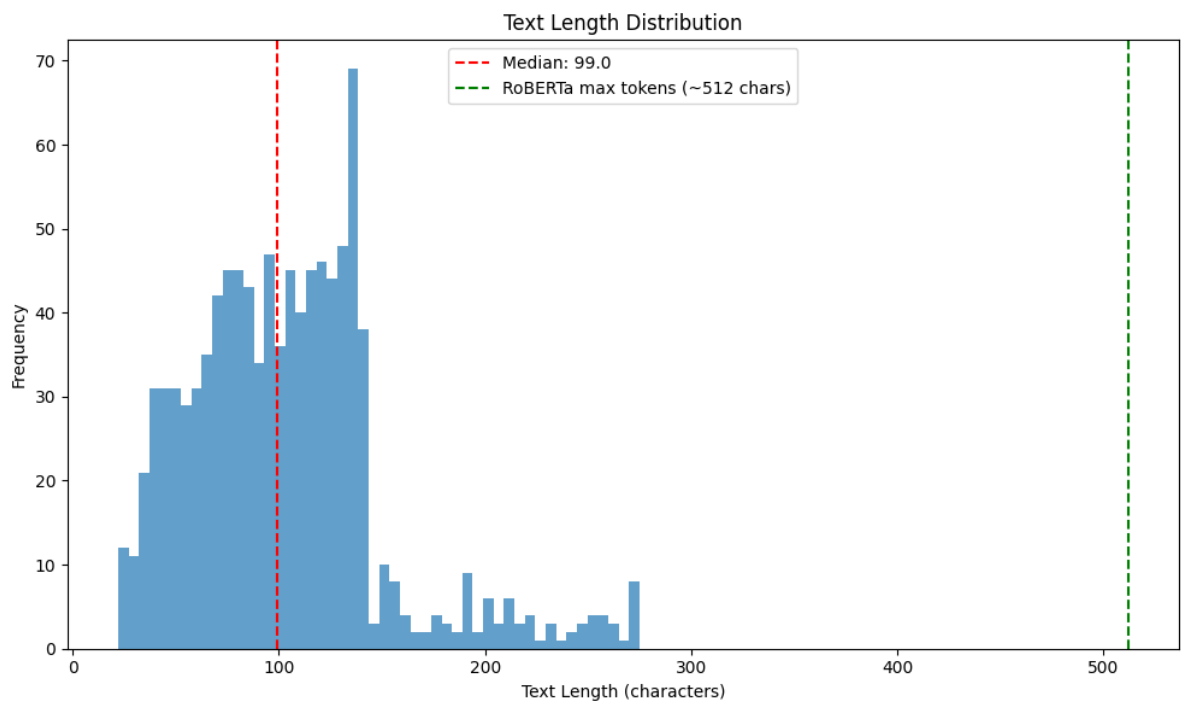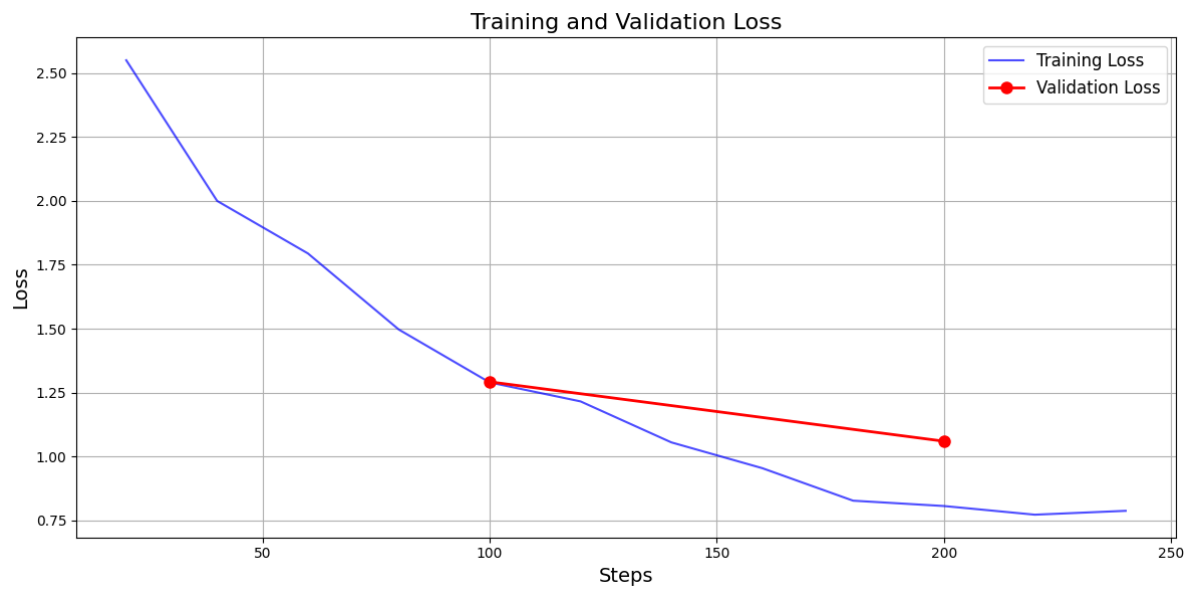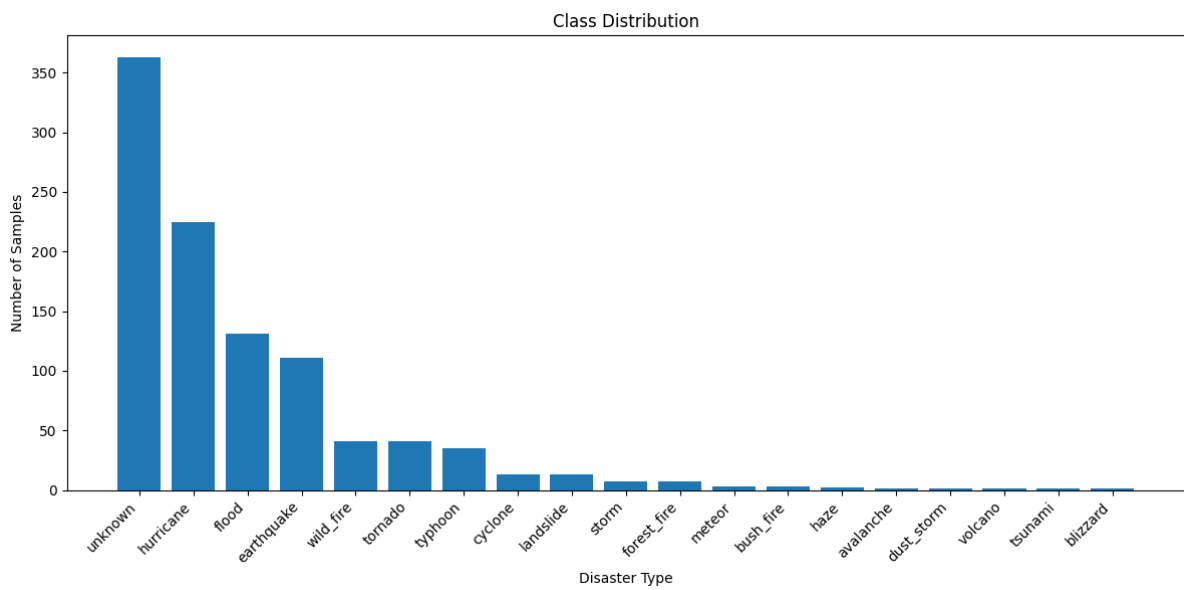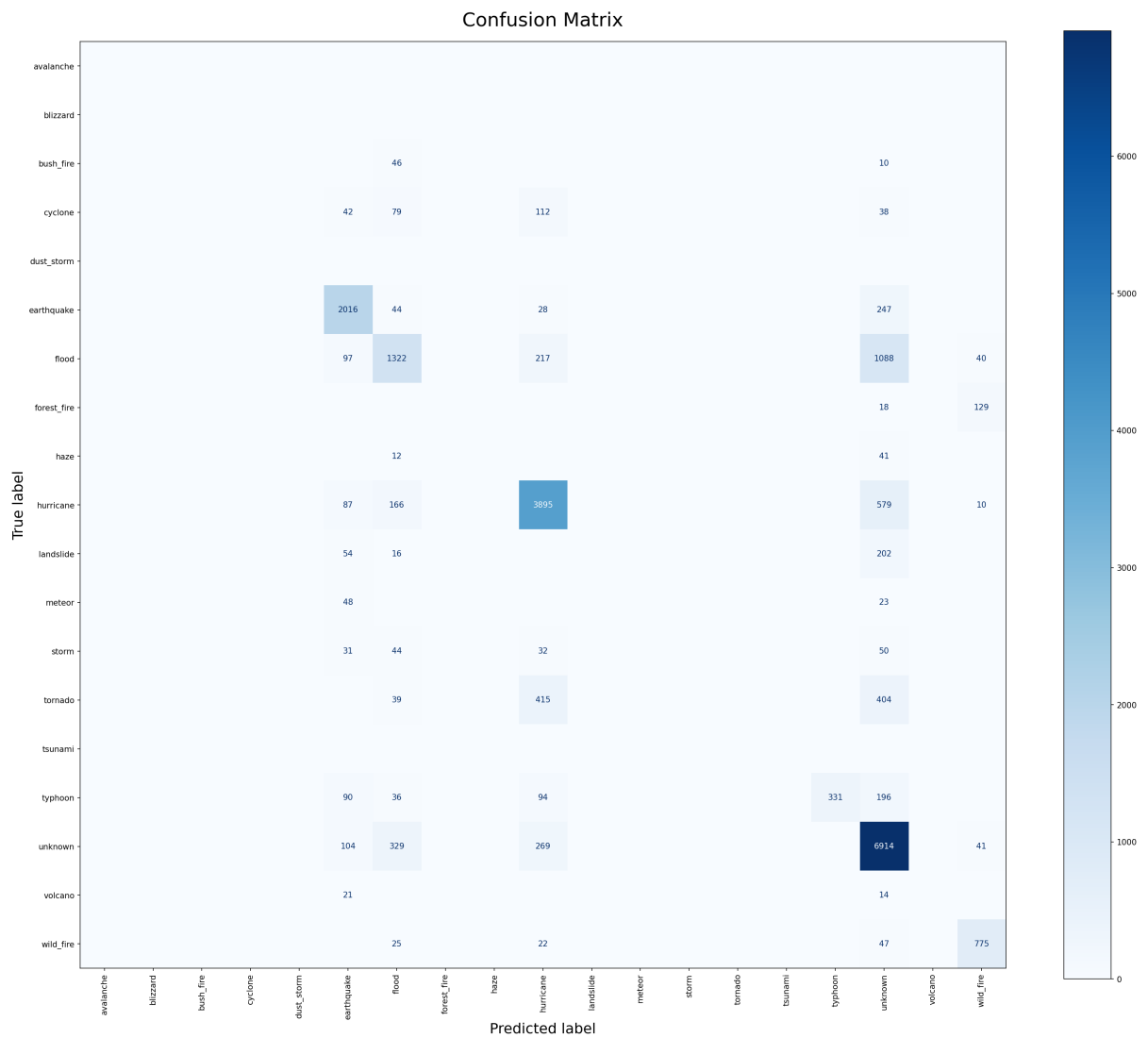## 5.3 Text Length Distribution

5.4 Training and Validation Loss

5.5 Class Distribution

5.6 Confusion Matrix
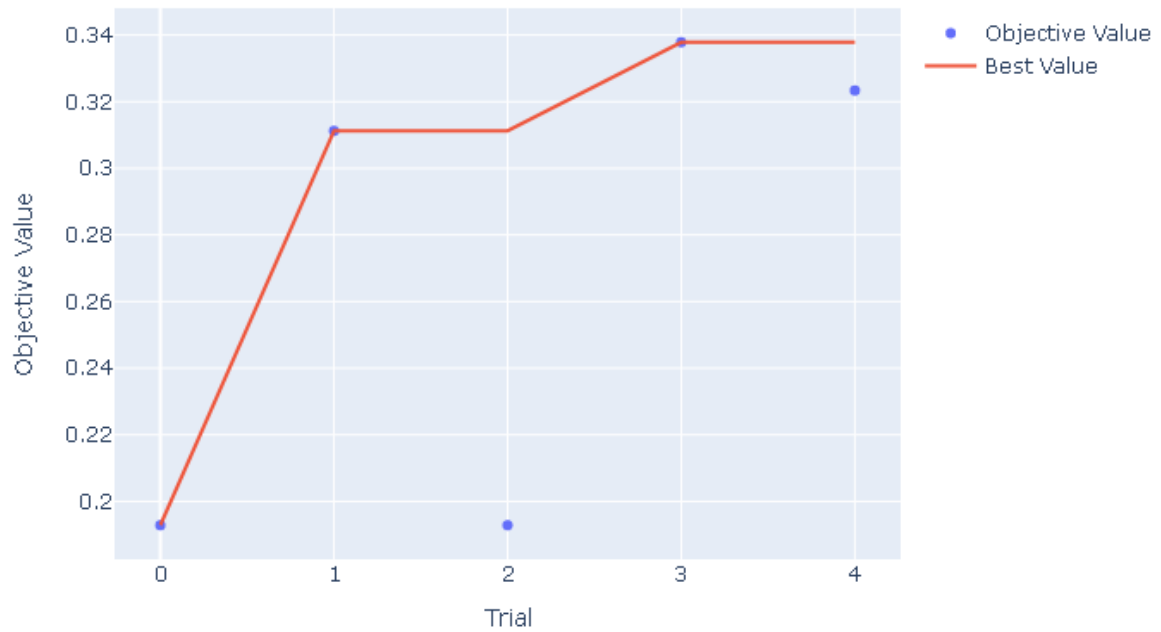

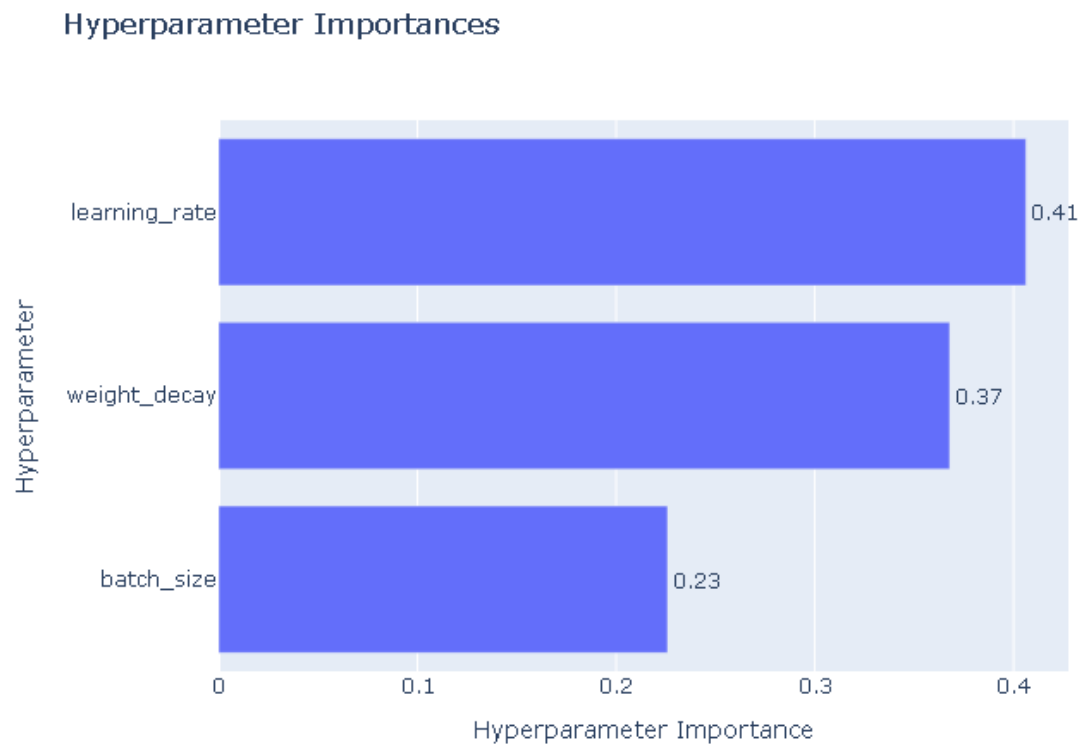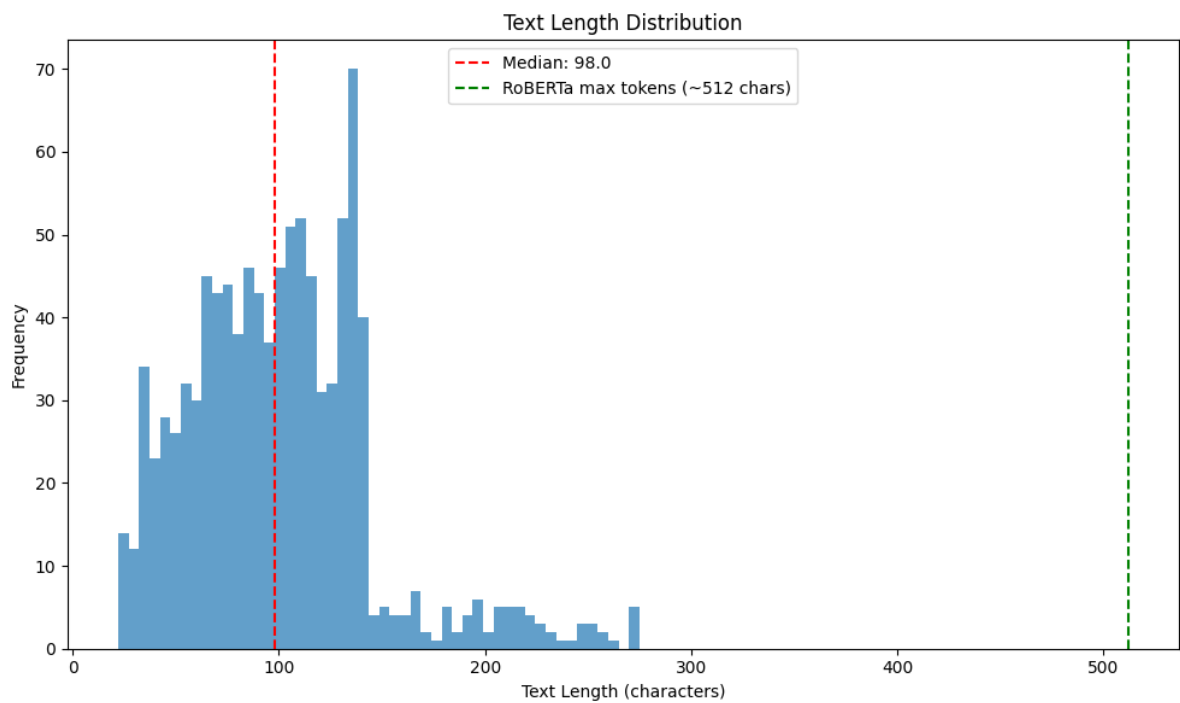Confusion Matrix

5.7 F1 Score Progression

F1 Score Progression
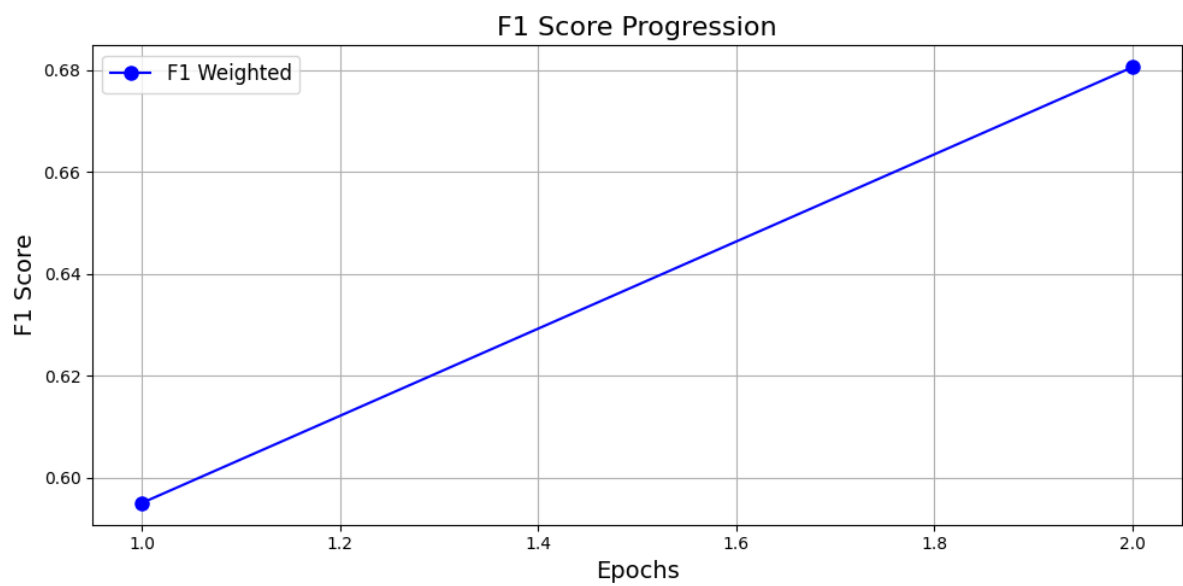
5.8 Optimization History Plot

Optimization History Plot

6 Output (ELECTRA)

6.1 Hyperparameter Importances

Hyperparameter Importances

6.2 Text Length by Disaster Type

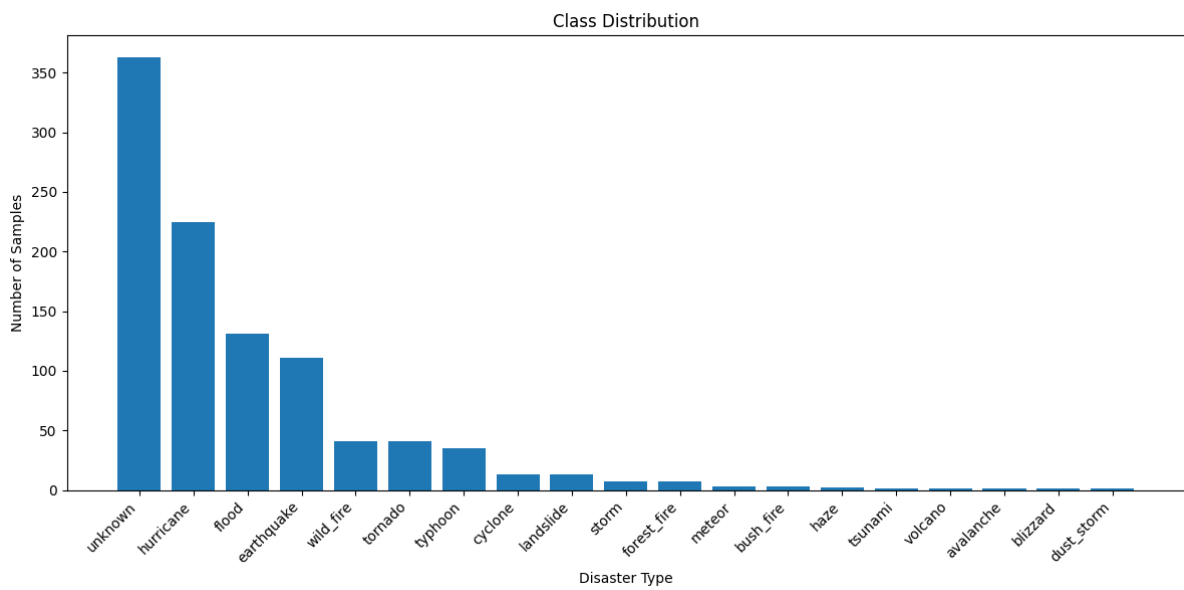Text Length by Disaster Type

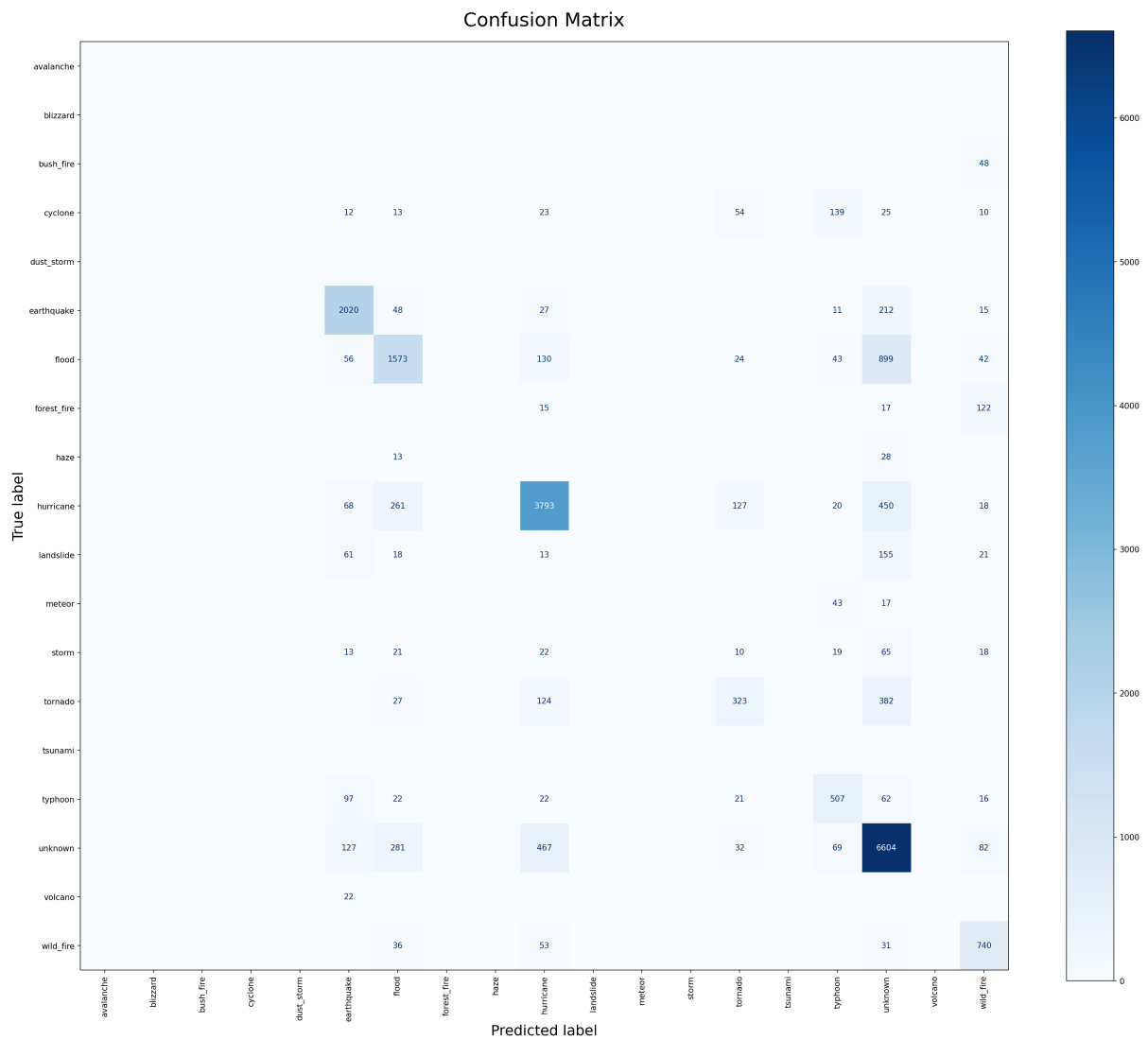## 6.3 Text Length Distribution
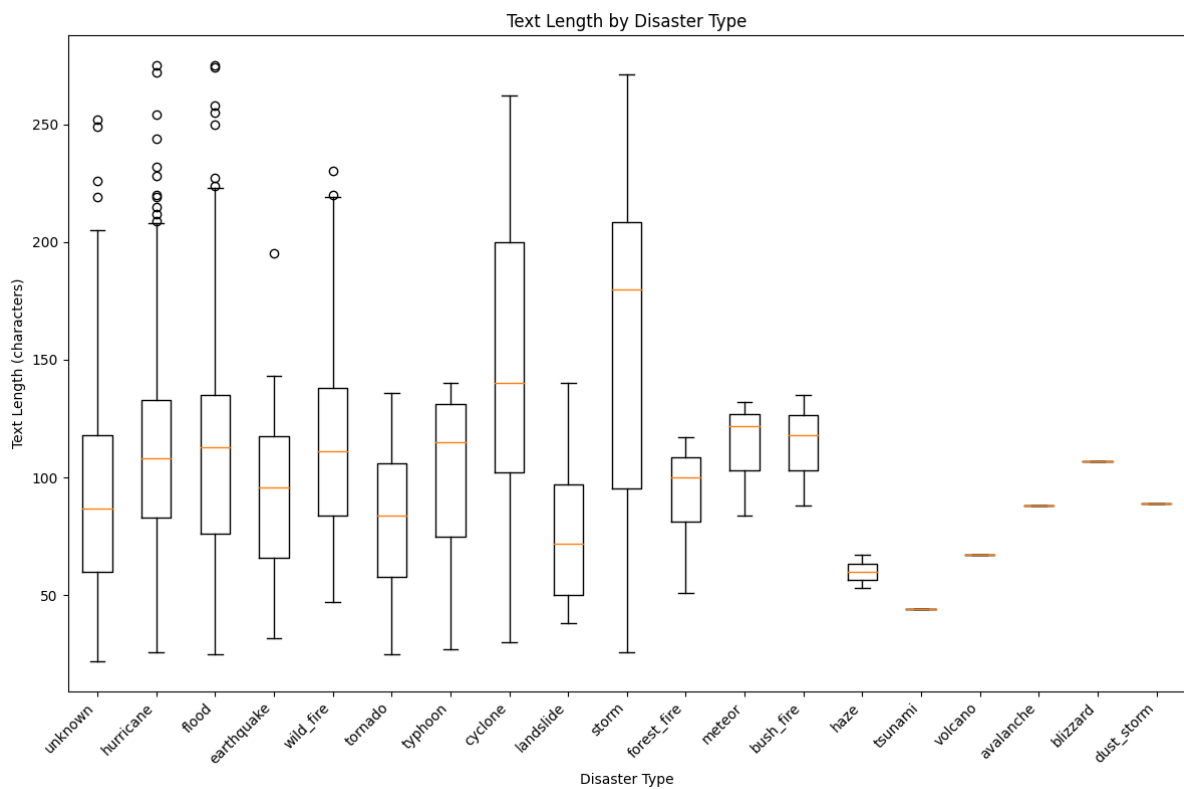
Text Length Distribution

6.4 Training and Validation Loss

6.5 Class Distribution

6.6 Confusion Matrix

Confusion Matrix

6.7 F1 Score Progression

F1 Score Progression
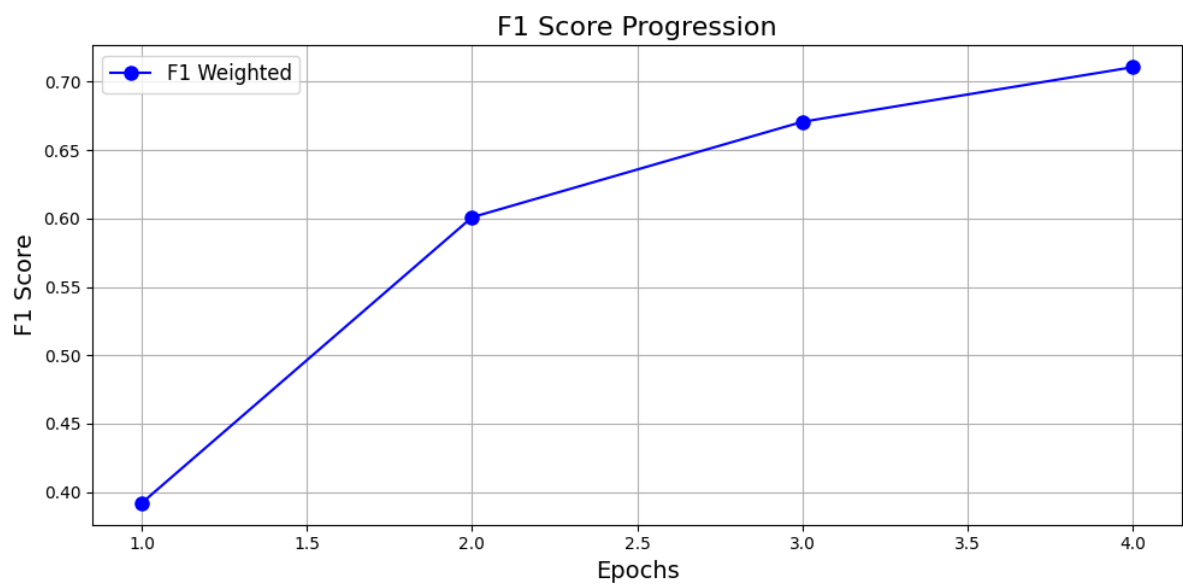
6.8   Optimization History Plot

Optimization History Plot

7 Output (XLNET)

7.1 Hyperparameter Importances

Hyperparameter Importances

7.2 Text Length by Disaster Type

7.3 Text Length Distribution

7.4 Training and Validation Loss

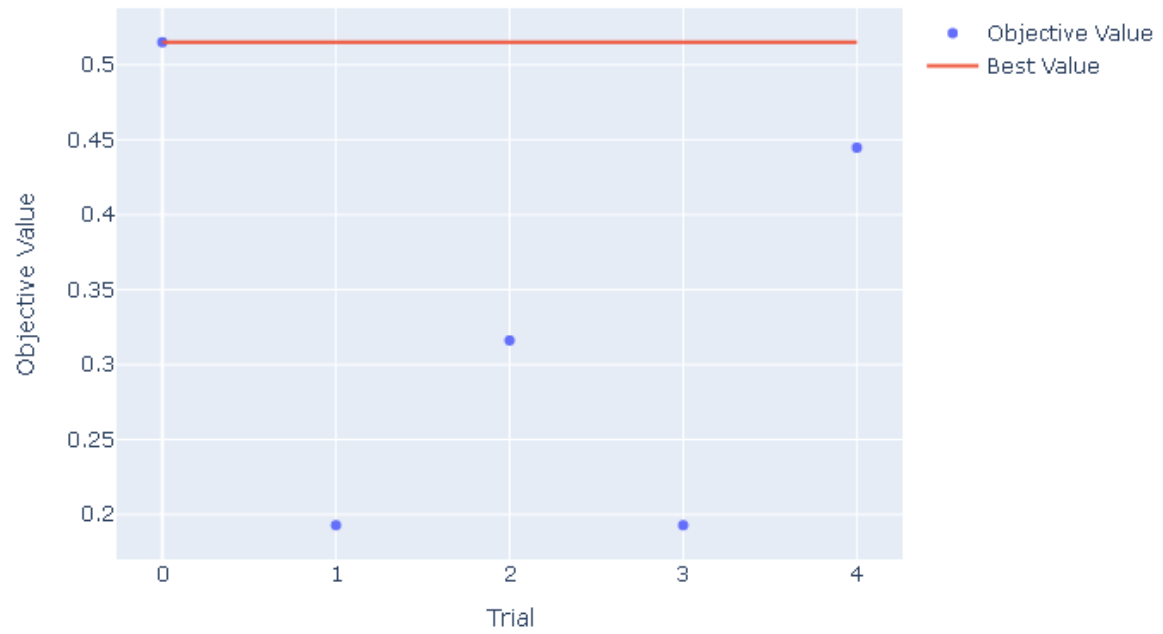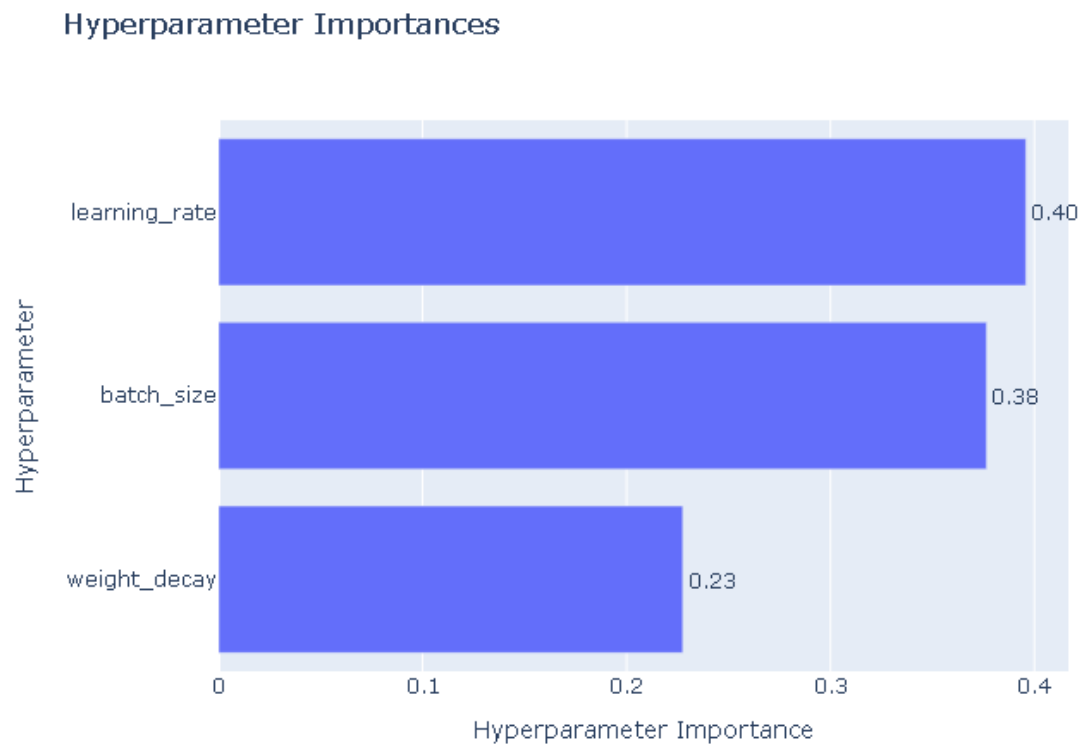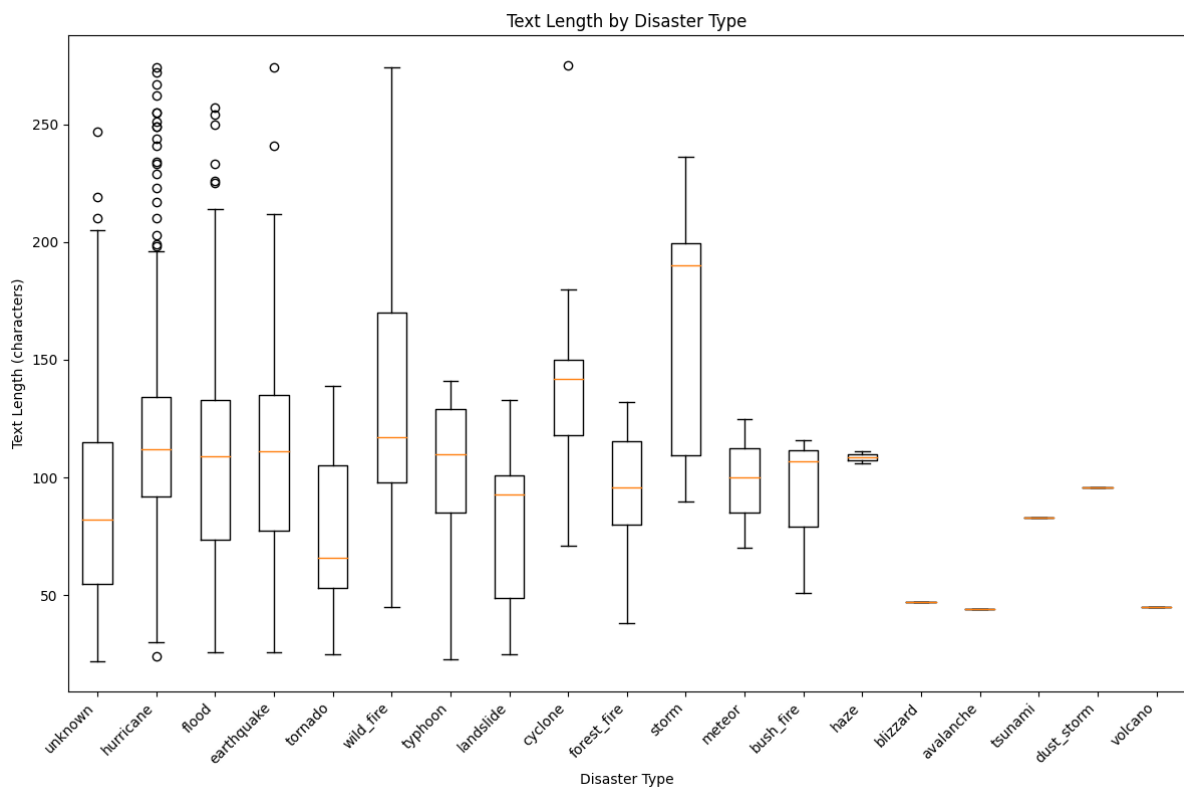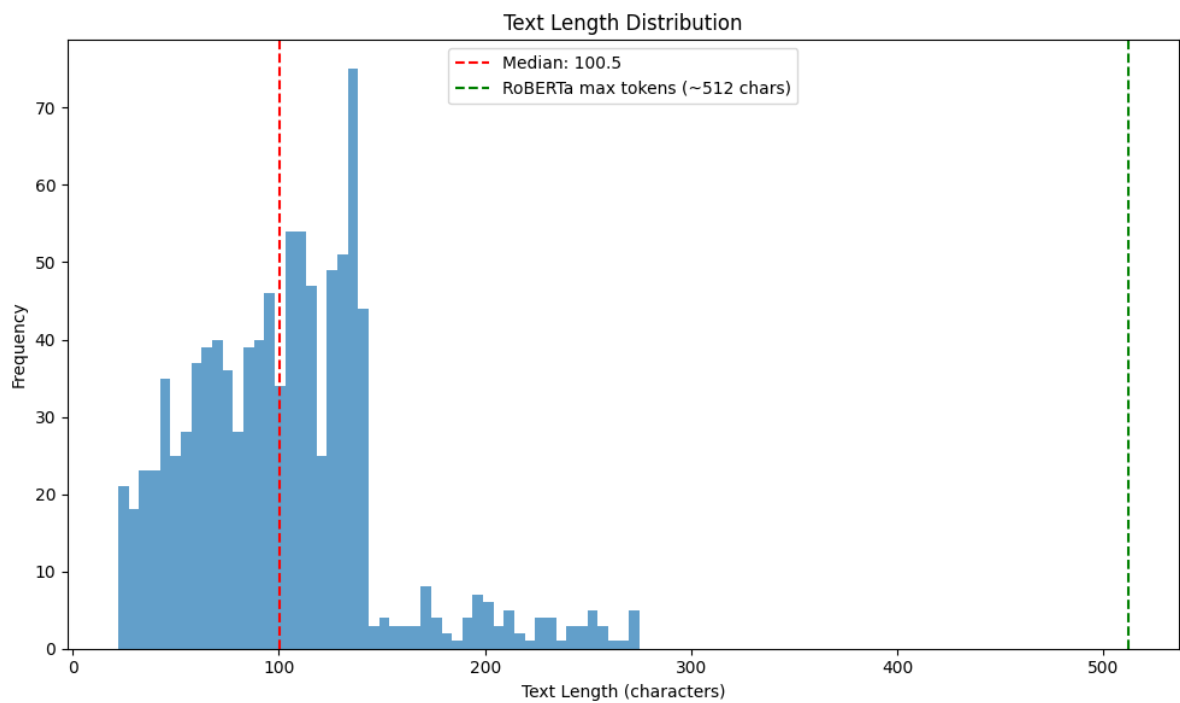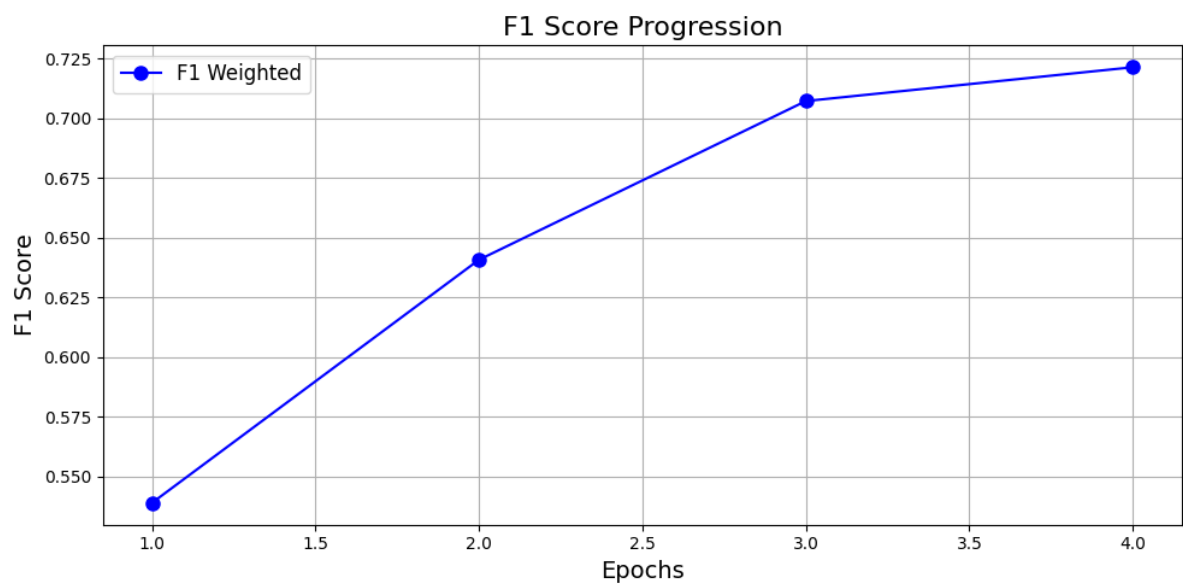## 7.5 Class Distribution
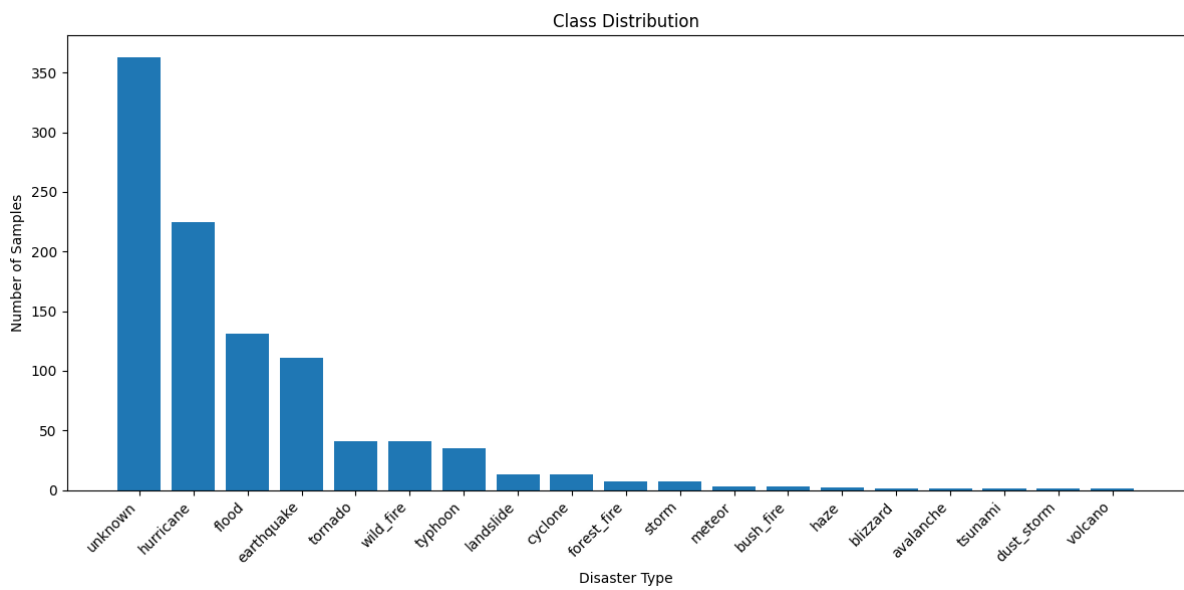
7.6 Confusion Matrix

Confusion Matrix
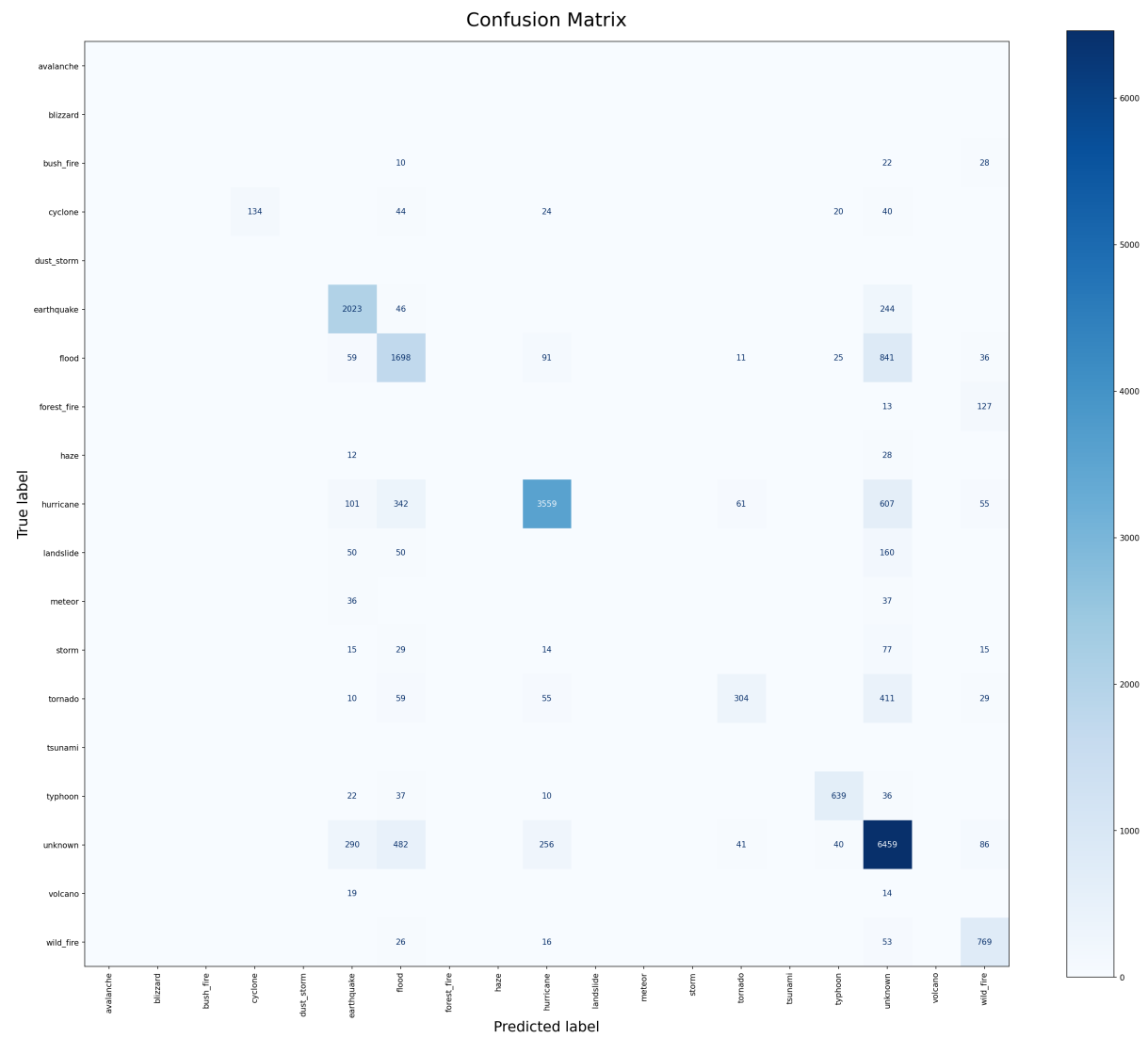
7.7 F1 Score Progression

F1 Score Progression

7.8 Optimization History Plot

Optimization History Plot