

NLP Assignment-3 Report

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Part-2

BERT Model

i) Hyperparameters:

- Max Sequence Length: 100
- Batch Size: 8
- Number of Output Units: 4
- Epoch Count: 25

ii) Data Specification:

- Mean Sentence Length: 26.0216
- Median Sentence Length: 26.0
- Min Sentence Length: 9
- Max Sentence Length: 97

v) Training Details:

- Training Duration: 25 epochs (based on validation set)
- Optimizer: Adam
- Learning rate: 1e-5
- Loss Function: Cross Entropy

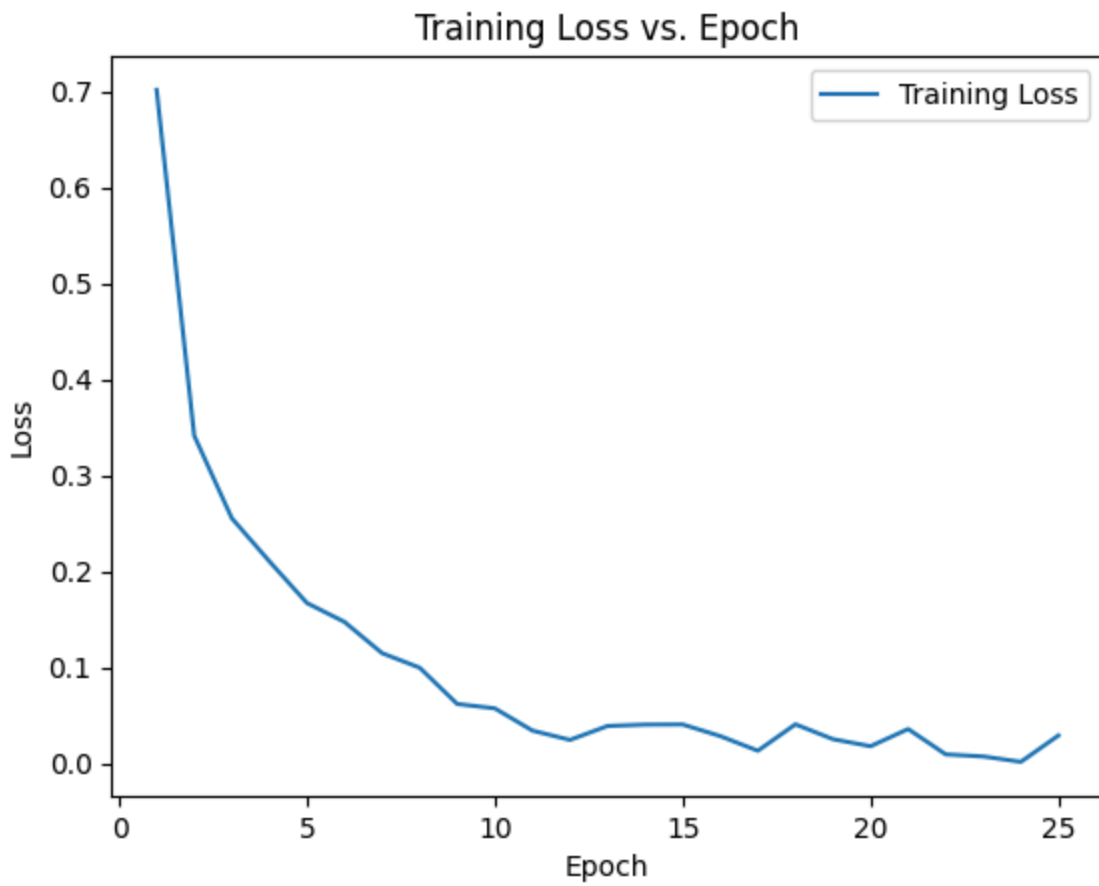
vi) Performance:

- Accuracy: 0.884
- F1 Score: 0.8841667133603872
- Confusion Matrix:

	Predicted Class 0	Predicted Class 1	Predicted Class 2	Predicted Class 3
True Class 0	110	3	9	3
True Class 1	3	116	4	2
True Class 2	7	1	101	16
True Class 3	2	0	8	115

- Classification Report:

	precision	recall	f1-score	support
0	0.90	0.88	0.89	125
1	0.97	0.93	0.95	125
2	0.83	0.81	0.82	125
3	0.85	0.92	0.88	125
accuracy			0.88	500
macro avg	0.89	0.88	0.88	500
weighted avg	0.89	0.88	0.88	500



To optimize Bert training, the model is trained using GPU.