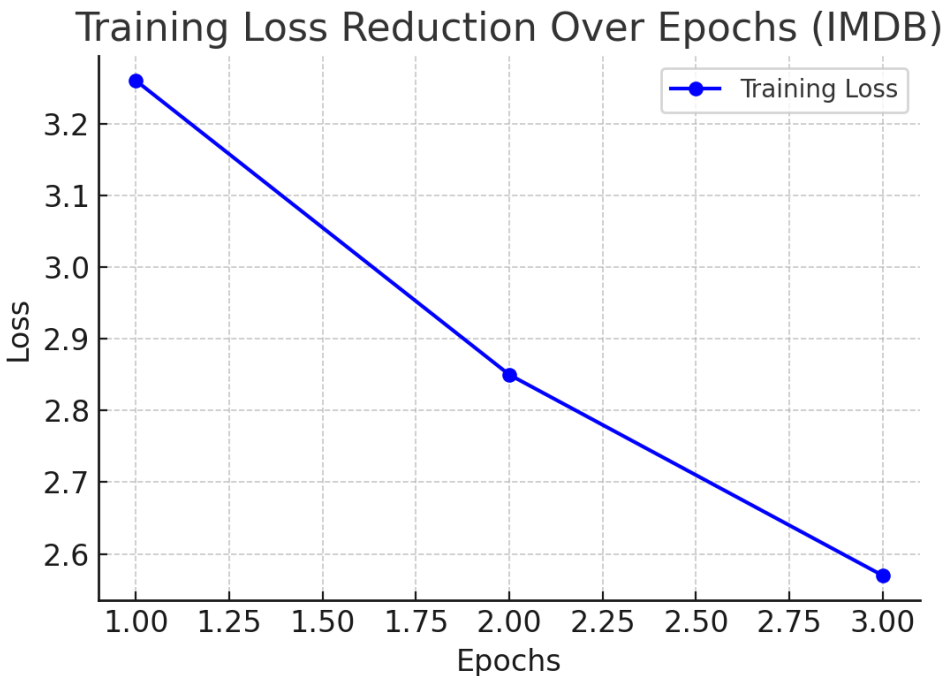# Model Insights - Gemma-2B Fine-Tuned on IMDB

This document presents insights from fine-tuning the Gemma-2B model on the StanfordNLP/IMDB dataset. The fine-tuning focused on enhancing text classification capabilities for sentiment analysis.
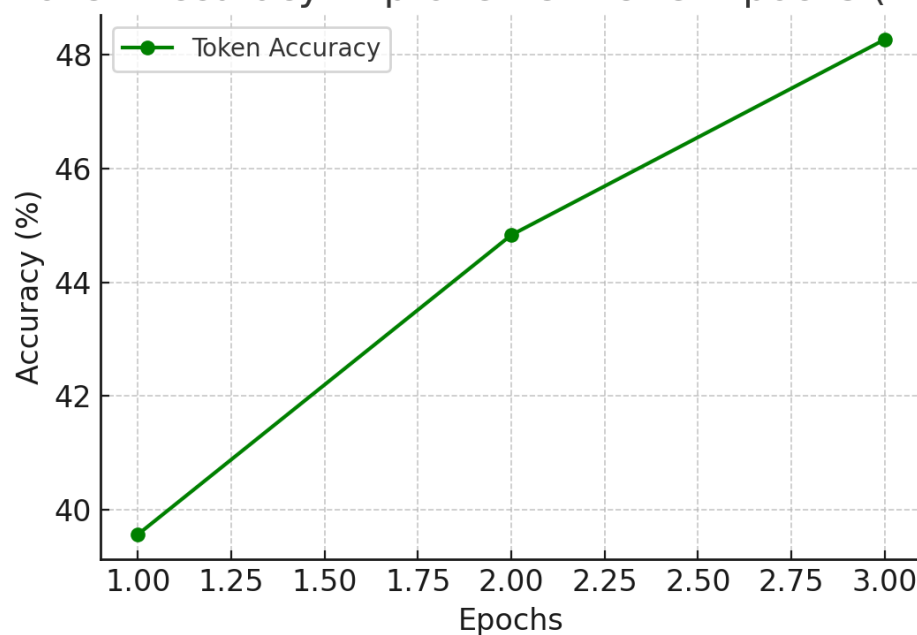
Training Metrics

- Initial Loss: 3.26
- Final Loss: 2.57
- Token Accuracy (Final): 48.27%
- Training Stability: No instability detected
- Dataset: StanfordNLP/IMDB

Token Accuracy Improvement

The model showed steady improvement in token accuracy, demonstrating its ability to classify sentiment-based reviews more effectively after fine-tuning.

Token Accuracy Improvement Over Epochs (IMDB)

Observations & Next Steps

The model successfully learned structured text classification. However, some anomalies were noted with sarcasm and mixed sentiment reviews. Further tuning with datasets like SST-2 or Twitter Sentiment may improve robustness.