Individual Contribution Report

**Project Title**: Amazon Sentiment Analysis – NLP Pipeline  
**Student Name**: Isaac Chinagorom Esonotu  
**Student ID**:   
**Team Members**:

* Cristobal Gonzalez Diaz – A00083919
* Isaac Chinagorom Esonotu – A00162779

Contribution Summary

My key responsibilities in this project included:

1. **Model Architecture**
   * Created a sentiment analysis model in this notebook using deep learning approach with LSTM network, The break down of the architecture we used include; input layer, embedding layer, LSTM layer, dense layerand embedding
2. **Training Optimization**
   * Utilized training optimization with several techniques to improve learning efficiency, prevent overfitting and enhance generalization
   * Techniques used include Optimizer, Batch size, shuffling before training, validation split, pre\_trained embeddings, loss function, gradient Updates & Backpropagation
3. **Evaluation Metrics**
   * Developed several key metrics to assess model performance. The metrics used include primary metric, loss function, validation strategy, error analysis opportunities.
4. **Code Revision and Validation**
   * Critical Analysis of current implementation
   * Revised code improvements
   * Used qualitative framework validation
   * Set up implementation roadmap, deployment checks, monitoring and priority fixes.

**🔁 Collaborative Work**

I contributed to model architecture, training optimisation, and evaluation metrics, while my teammate focused on model architecture, training optimisation, and evaluation metrics. We jointly reviewed and validated the overall system, ensuring all deliverables met the marking rubric.