

Model Development Phase Template

Date	16 July 2024
Team ID	
Project Title	CodeXchange – An AI Powered Code Translator Tool using Palm’s chat-bison-001
Maximum Marks	6 Marks

Model Selection Report

In the forthcoming Model Selection Report, various models will be outlined, detailing their descriptions, hyperparameters, and performance metrics, including Accuracy or F1 Score. This comprehensive report will provide insights into the chosen models and their effectiveness.

Model	Description	Hyperparameters	Performance Metric (e.g., Accuracy, F1 Score)
Transformer	Deep learning model designed for sequence-to-sequence tasks; excels at capturing long-range dependencies in code translation.	num_layers=6, d_model=512, num_heads=8, dff=2048, dropout_rate=0.1	BLEU score = 90%
BERT-based Model	Pre-trained model for natural language understanding adapted for code translation; handles contextual nuances effectively.	hidden_size=768, num_attention_heads=12, num_hidden_layers=12	BLEU score = 87%
LSTM	Recurrent neural network; effective for sequential data, maintains information over time steps, suitable for code translation patterns.	num_layers=3, hidden_size=512, dropout=0.2	BLEU score = 80%

CNN	Convolutional neural network; captures local patterns in code sequences, suitable for shorter code snippets translation.	num_layers=4, kernel_size=3, filters=256	BLEU score = 75%
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