Model Optimization and Tuning Phase Template

Date	31/01/2026
Team ID	LTVIP2026TMIDS5214
Project Title	Dog Breed Identification using Transfer Learning

Model Optimization and Tuning Phase

The Model Optimization and Tuning Phase involves refining neural network models for peak performance. It includes optimized model code, fine-tuning hyperparameters, comparing performance metrics, and justifying the final model selection for enhanced predictive accuracy and efficiency.

Hyperparameter Tuning Documentation

Model	Tuned Hyperparameters
Model 1(VGG-16)	Used Adam optimizer, which gave better accuracy than SGD and ran for 10 epochs.
Model 2(ResNet50)	Used Adam optimizer, which gave better accuracy than SGD and ran for 10 epochs.
Model 3(Inception)	Used Adam optimizer, which gave better accuracy than SGD and ran for 10 epochs.
Model 4(Xception)	Used Adam optimizer, which gave better accuracy than SGD and ran for 10 epochs.

Final Model Selection Justification

Final Model	Reasoning
Model 4 (Xception)	This model gave batter accuracy than other models.