**Model Optimization and Tuning Phase Template**

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| Date | 27 October 2024 |
| Team ID | 739755 |
| Project Title | Bird Species Classification |
| Maximum Marks | 10 Marks |

**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 (8 Marks):

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| **Model** | **Tuned Hyperparameters** |
| Model 1 |  |

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### Final Model Selection Justification (2 Marks):

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| --- | --- |
| **Final Model** | **Reasoning** |
| Model | |  |  | | --- | --- | | Preprocessing: | Resizing and Normalization |  |  |  | | --- | --- | | Data Augmentation: | Random rotation, flipping, zooming |  |  |  | | --- | --- | | Loss Function: | Categorical Crossentropy |  |  |  | | --- | --- | | Optimizer: | Adam Optimizer |  |  |  | | --- | --- | | Learning Rate Scheduler: | ReduceLROnPlateau |  |  |  | | --- | --- | | Epochs | 10 |  |  |  |  | | --- | --- | --- | | Batch Size | : | 32 |  |  |  | | --- | --- | | Evaluation Metric: | Accuracy |  |  | | --- | |  | |