

## **Boosting Ideas for Animal Image Classification**

### **1. Increasing Training Epochs**

Training for only 3 epochs limits the model's learning capability. Increasing to 10–20 epochs with early stopping can yield better results.

### **2. Data Augmentation**

To improve model generalization, apply data augmentation techniques such as:

Rotation: Randomly rotate images up to 20 degrees.

Flipping: Apply horizontal flipping to create variations.

Scaling and Cropping: Resize images and perform random cropping.

Color Jittering: Adjust brightness, contrast, and saturation.

## **Boosting Ideas for General pipeline:**

### **1. Synonym Processing**

Utilize NLP techniques to detect and replace synonyms in text-based data.

Apply word embeddings (Word2Vec, GloVe) to improve synonym recognition.

Use lexical databases like WordNet to standardize synonyms.

### **2. Grammatical Error Correction**

Implement grammar-checking tools such as LanguageTool or spaCy.

Train sequence-to-sequence models (e.g., T5, GPT) for automated correction.

Use text preprocessing techniques like stemming and lemmatization to normalize words.