Chapter 9

Advantages and Disadvantages

9.1 – Advantages

• High classification accuracy due to the use of deep learning and transfer learning techniques.

• Reduced training time since pre-trained models are used instead of training from scratch.

• Efficient feature extraction using pre-trained models trained on large datasets such as ImageNet.

• Ability to handle large multi-class datasets with many dog breeds.

• Improved performance even with limited training data.

• User-friendly web interface for easy image upload and prediction.

• Fast prediction response suitable for real-time applications.

• Scalable architecture allowing addition of new dog breeds in the future.

• Reduced computational cost compared to building a deep learning model from scratch.

• Automatic feature learning without the need for manual feature engineering.

• Can be integrated into mobile or cloud-based applications.

• Supports practical applications in veterinary clinics, pet adoption platforms, and animal rescue systems.

• Provides consistent and reliable results compared to manual identification methods.

• Easy deployment using lightweight frameworks such as Flask.

• Flexible system design that allows further enhancements and optimization.