Malaria Detection in Blood Smears

Amanda J Andrade

Introduction

= **Malaria's Global Impact**

= **Global Risk**

= **Intensified efforts to combat Malaria**

Traditional Diagnosis

= **Use Blood Smear and Microscope**

= **Manual Counting of Blood Films**

= **Diagnosis in Isolation**

= **High chance of error**

= **Lack of Standardization**

Use of Deep Learning in Diagnosis

= **Exploit the Neural Network's model classification function**

= **Achieve accurate and precise diagnosis of Malaria**

= **EfficientNet B3 Model Selection**

= **Performance Metrics: 98% Accuracy, High Precision**

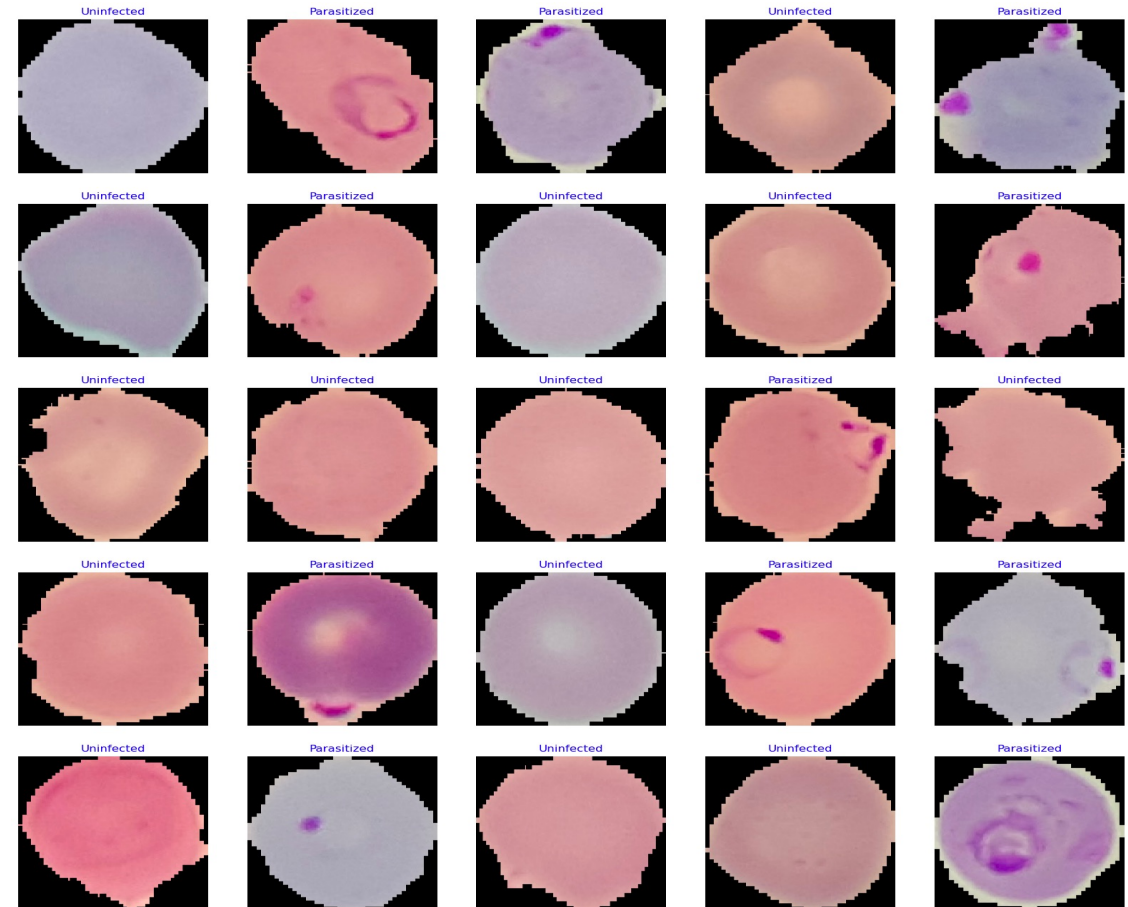# Literature Review on Existing Technologies

= **Overview of Inception Module, ResNet-50, Inception-ResNet-v2, NasNet**

= **Advantages and Limitations**

= **EfficientNet's Compound Scaling Method as Breakthrough**
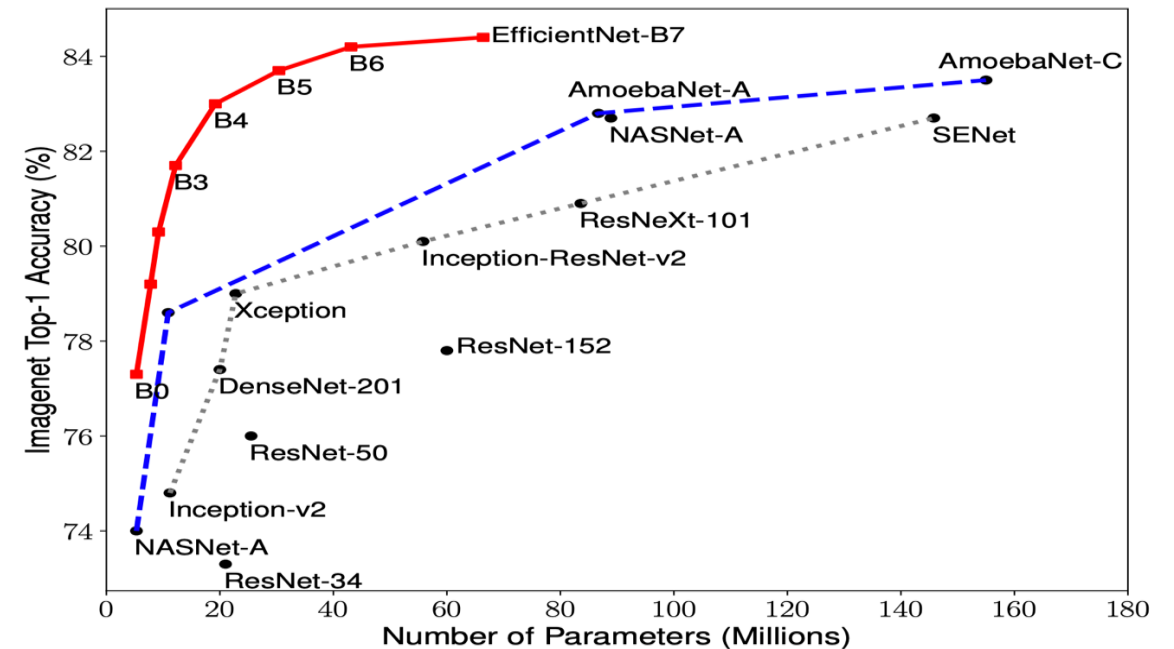
Approach

= **Transfer Learning with EfficientNet B3**

= **Data Preprocessing**

= **Image Data Generators**

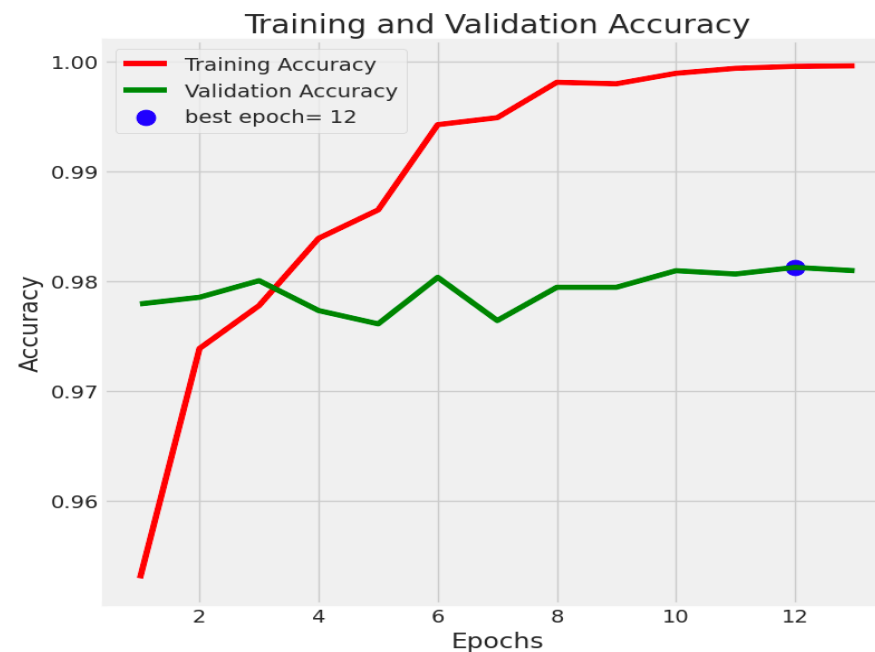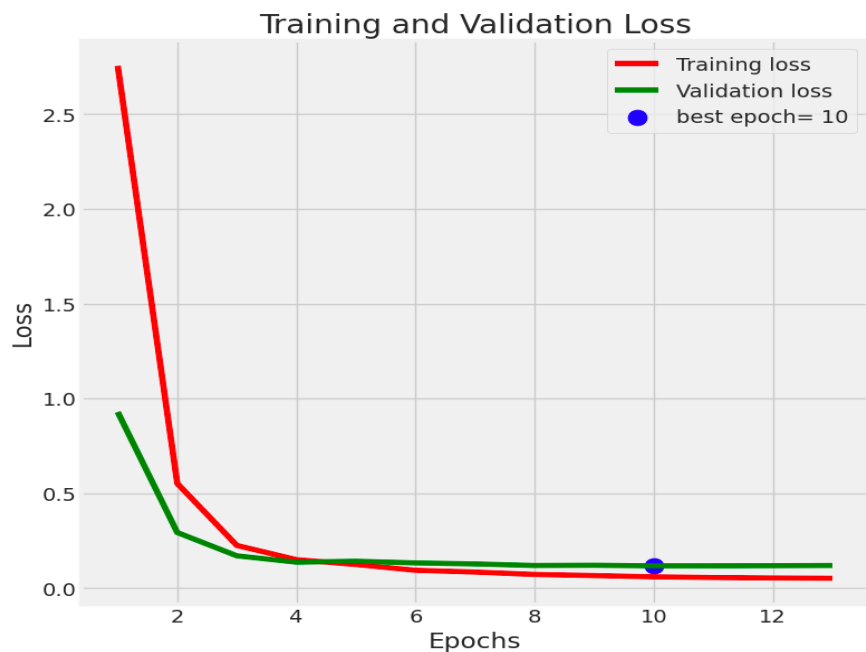= **Custom Callbacks for Dynamic Learning Rate Adjustment**

What is Efficient B3?

= **CNN architecture belonging to EfficientNet family.**

= **Introduced by Google in 2019**

= **Known for their efficient scaling of neural network architectures, achieving a balance between model size and performance.**

Results and Implications

Results and Implications