

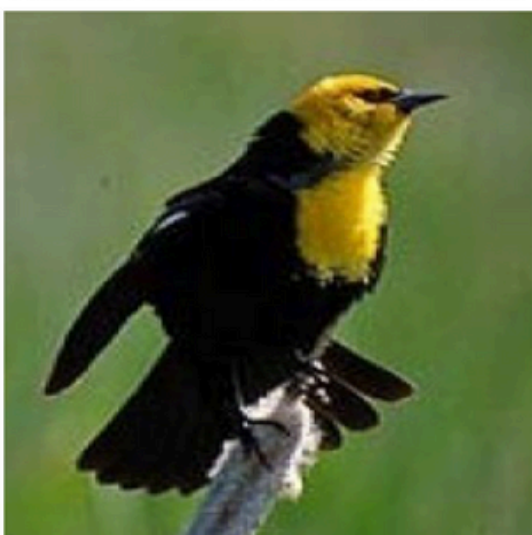
# BIRD CLASSIFICATION USING EFFICIENTNET(B0-B7)

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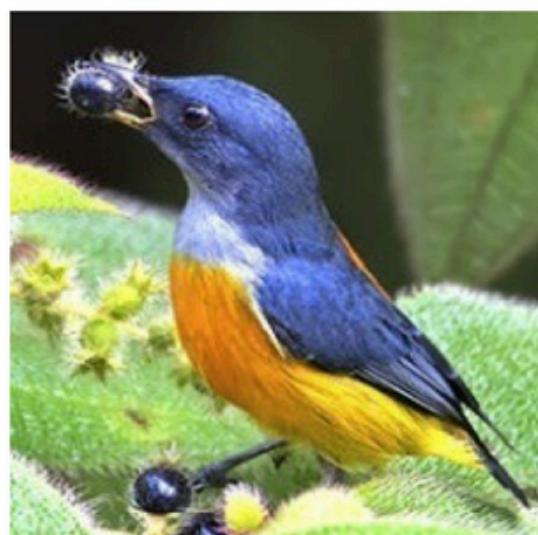
## INTRODUCTION

This project explores the effectiveness of EfficientNet models B0 to B7 for bird classification. EfficientNet models are designed using a compound scaling method that uniformly scales the depth, width, and resolution of the network. By leveraging transfer learning and fine-tuning techniques, we aim to harness the power of these pre-trained models to accurately classify bird species.

True: YELLOW HEADED BLACKBIRD  
Predicted: YELLOW HEADED BLACKBIRD



True: YELLOW BELLIED FLOWERPECKER  
Predicted: YELLOW BELLIED FLOWERPECKER



True: WOODLAND KINGFISHER  
Predicted: WOODLAND KINGFISHER



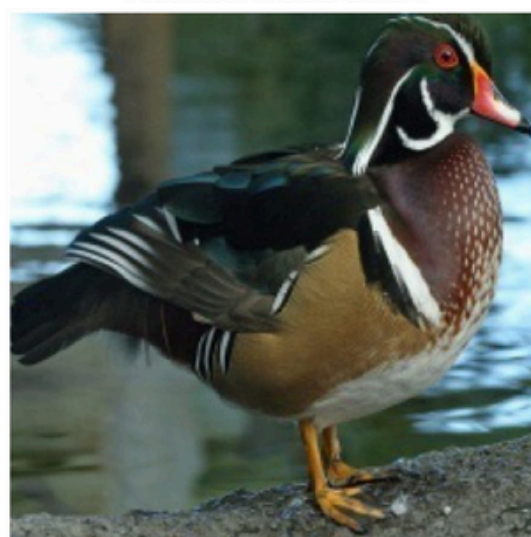
True: WRENTIT  
Predicted: WRENTIT



True: WILSONS BIRD OF PARADISE  
Predicted: WILSONS BIRD OF PARADISE



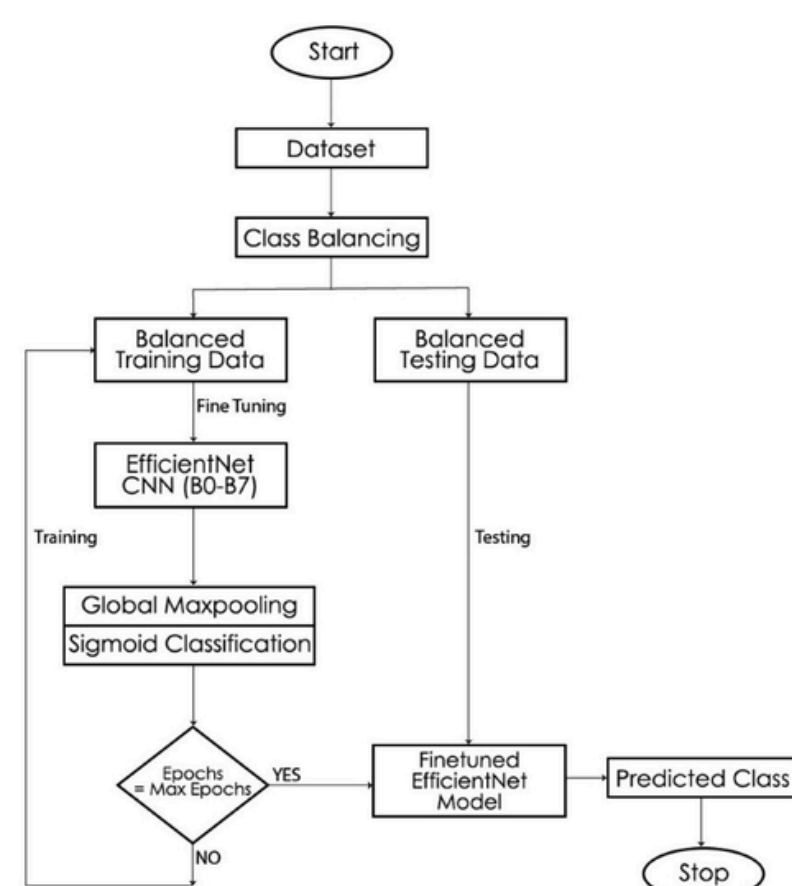
True: WOOD DUCK  
Predicted: WOOD DUCK



## NOVELTY

- Comprehensive evaluation of EfficientNet models:
- Comparison of model performance
- Analysis of model complexity and performance trade-offs
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## METHODOLOGY



## RESULTS

	ACCURACY
EfficientNetB0	0.9945
EfficientNetB1	0.9869
EfficientNetB2	0.9843
EfficientNetB3	0.9910
EfficientNetB4	0.9890
EfficientNetB5	0.9779
EfficientNetB6	0.9807
EfficientNetB7	0.9862

## CONCLUSION

The comparative analysis conducted showed that the EfficientNetB0 model outperformed other models, achieving a remarkable accuracy of **99.45%** with a minimal loss of just 0.01712. This superior performance underscores the effectiveness of the EfficientNet architecture in handling the complexities of the dataset and making accurate predictions.

