

Fish Image Classification - Model Performance Summary

Model	Accuracy
VGG16	98.44%
MobileNetV2	96.98%
InceptionV3	94.60%
Custom CNN	75.92%
ResNet50	57.14%
EfficientNetB0	19.87%

Observations:

- 1. VGG16 achieves the highest accuracy but fails to predict 'animal fish bass' correctly.
- 2. MobileNetV2 is nearly as good as VGG16 and covers all classes.
- 3. InceptionV3 performs well but struggles with rare classes.
- 4. Custom CNN lags behind transfer learning models.
- 5. ResNet50 and EfficientNetB0 underperform significantly.

Recommendations:

- Use MobileNetV2 for speed and balanced performance.
- Use VGG16 if maximum accuracy is critical.
- Address class imbalance via augmentation, oversampling, or class weights.
- Debug preprocessing for ResNet50 and EfficientNetB0.