



# Transfer Learning for Poultry Disease Classification: Enhancing Health Management

Revolutionizing poultry health management through advanced AI, ensuring healthier flocks and sustainable farming practices.

# The Critical Need: Poultry Health Challenges



## Disease Outbreaks

Rapid spread, high mortality

## Economic Impact

Billions in losses annually

## Food Security

Threat to global supply

# Practical Application: Early Detection

Proactive Intervention for Healthier Flocks

**Image Capture**  
Automated farm cameras

**Intervention**  
Timely treatment



**Data Upload**  
Cloud processing

**AI Analysis**  
Disease classification

**Alert System**  
Instant farmer notification

## Our Methodology: Data and Adaptation



## 1 Dataset Curation

Diverse poultry disease images

## 2 Model Selection

## VGG, ResNet, Inception

### 3 Fine-Tuning

## Optimizing for poultry specifics

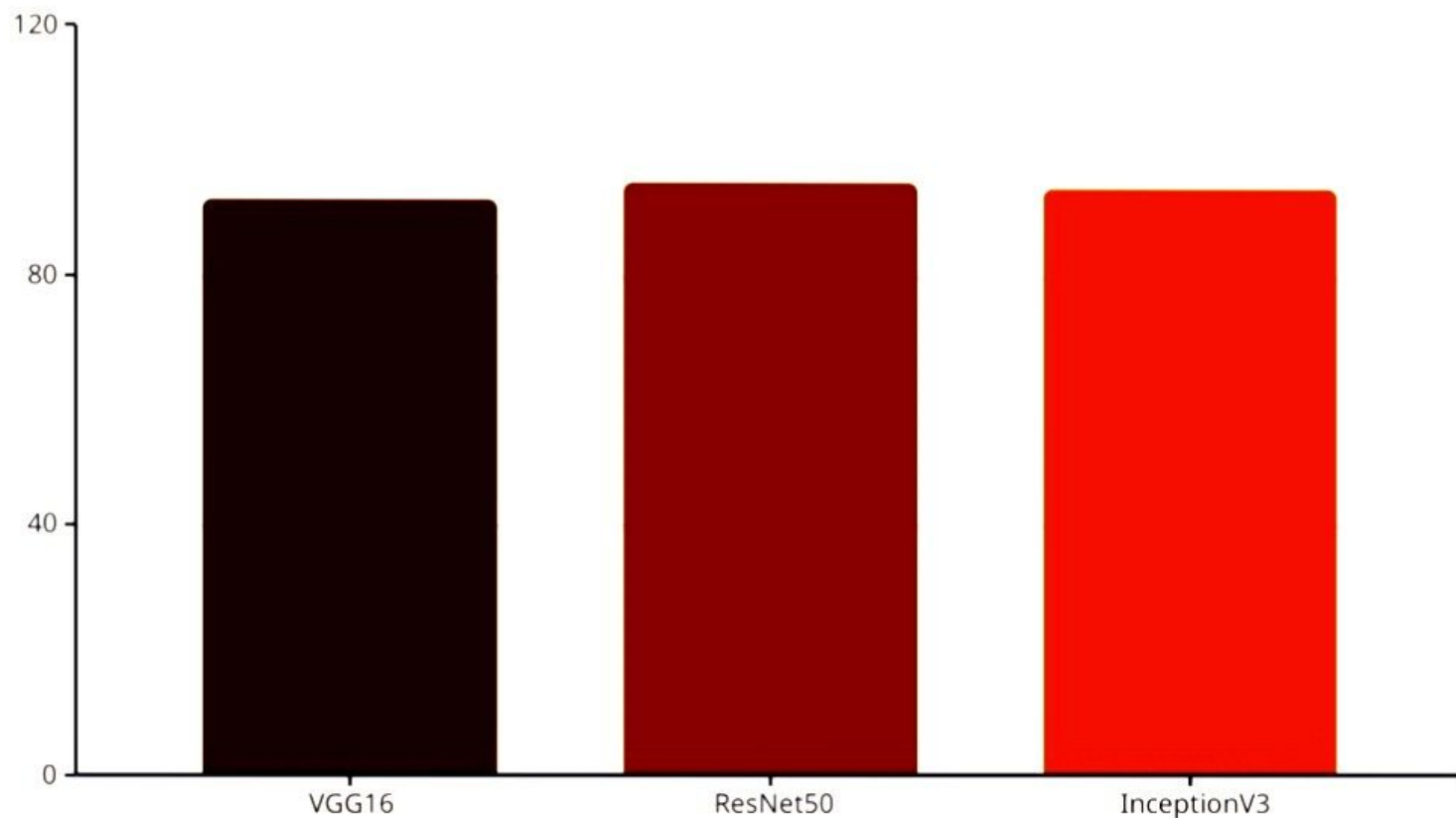
# Transfer Learning for Poultry Disease Classification

Enhancing Health Management in Poultry Farming



# Classification Performance: Accuracy

Insights from Our Models



Our transfer learning models achieved high accuracy, with ResNet50 leading the performance.



# Future Directions & Conclusion

## Expand Dataset

More disease types, diverse conditions

## Real-Time Monitoring

Integrate with IoT devices

## Preventative Analytics

Predictive disease risk



Transfer learning holds immense promise for revolutionizing poultry health management, ensuring sustainable farming practices and global food security.



# Understanding Transfer Learning

Leveraging Pre-trained Models for New Tasks



**Pre-trained Models**

Knowledge from vast datasets



**Adaptation Layer**

Fine-tuning for specific tasks



**Poultry Diseases**

Targeted classification



# Enhanced Health Management: Benefits



## Improved Welfare

Reduced suffering



## Economic Gains

Lower losses, higher yields



## Biosecurity

Controlled disease spread

