Poultry Disease Detection Using Transfer Learning

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# 1. INTRODUCTION

## 1.1 Project Overview

This project presents a deep learning-based poultry disease detection system using Transfer Learning. The system classifies poultry conditions into four categories: Coccidiosis, Salmonella, New Castle Disease, and Healthy, based on uploaded images. A lightweight Flask web application makes the solution easily accessible via mobile or desktop browsers.

## 1.2 Purpose

To help farmers, farm managers, and veterinary professionals quickly detect poultry diseases using an image-based AI system. The goal is early diagnosis, which can reduce economic loss, improve productivity, and aid in animal health management.

# 2. IDEATION PHASE

## 2.1 Problem Statement

Manual detection of poultry diseases is slow, error-prone, and often not accessible to small farmers. With the increase in poultry demand and limited veterinary access in rural regions, there's a critical need for an automated, easy-to-use disease detection system.

## 2.2 Empathy Map Canvas

SAYS: “I want to know if my chickens are sick fast”

THINKS: “Can I trust an app to diagnose accurately?”

DOES: Uploads image, checks app, starts treatment

FEELS: Frustrated by bird loss, but hopeful with tech

## 2.3 Brainstorming Summary

- Use MobileNetV2 for light-weight transfer learning  
- Build Flask-based responsive web app  
- Show disease name + treatment suggestion  
- Provide Android access using WebView