Project Design Phase

Solution Architecture

Date	20 July 2025
Team ID	LTVIP2025TMID41443
Project Name	Transfer Learning-Based Classification of Poultry Diseases for Enhanced Health Management
Maximum Marks	4 Marks

Solution Architecture:

1. User Interface (Mobile/Web App)

- Built using Android Studio (for mobile) or Streamlit/Flask (for web).
- Allows farmers to upload or capture chicken images.
- Displays predicted disease and treatment suggestions.
- Supports offline mode for rural users with limited internet access.

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2. AI Model – Transfer Learning (Backend)

- Pretrained CNN models like ResNet50, InceptionV3, or VGG16 are used.
- Fine-tuned with a dataset containing poultry images across four categories: Coccidiosis, Salmonella, Newcastle Disease, and Healthy.
- Deployed as a backend service to receive images and return predictions in real-time.

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3. Dataset & Image Preprocessing

- Image folders organized by disease categories.
- Images are resized, normalized, and augmented for training.
- Dataset split into train, validation, and test folders.

Example - Solution Architecture Diagram:

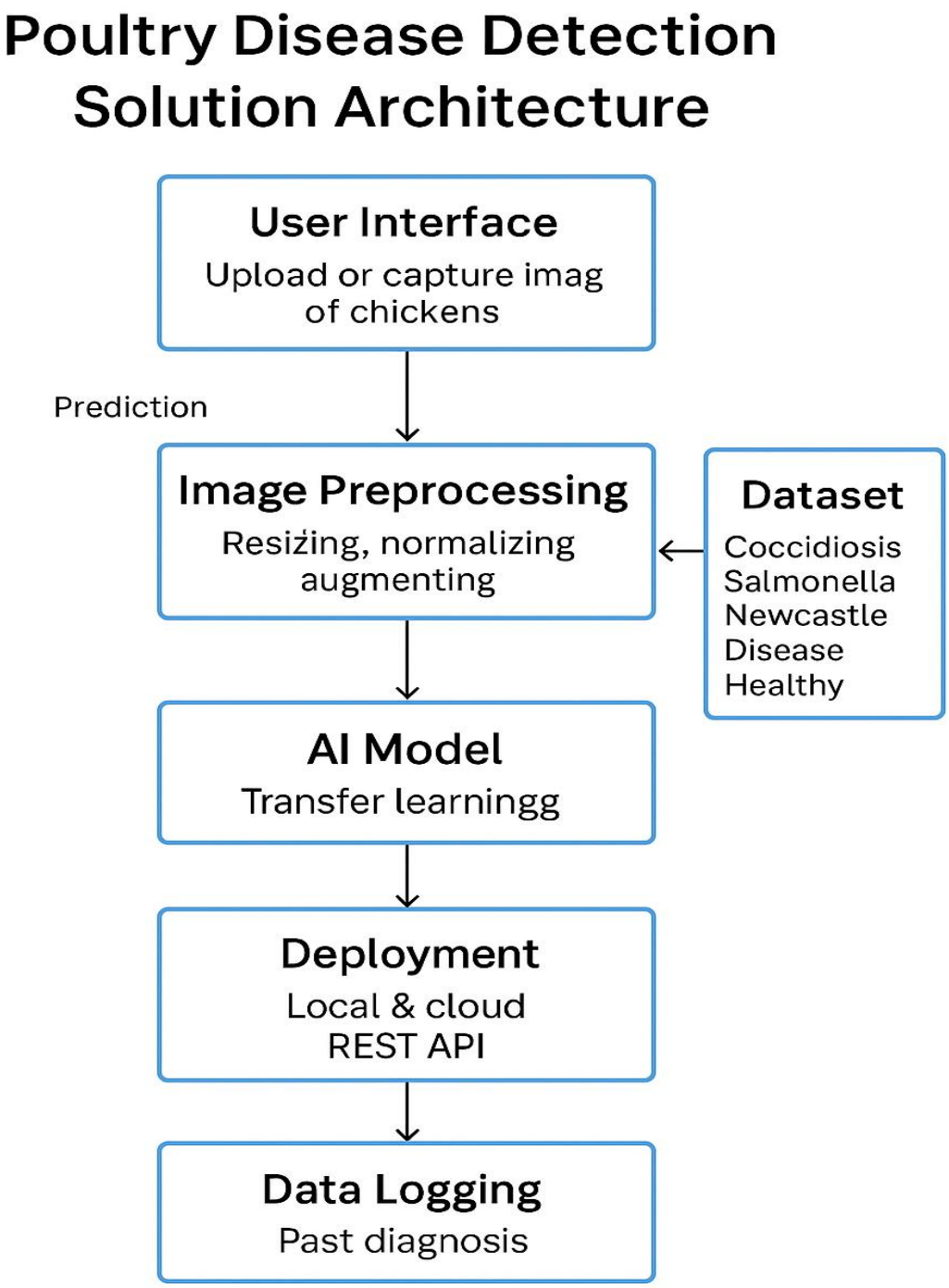

Figure 1: Architecture and data flow of Transfer Learning-Based Classification of Poultry Diseases for Enhanced Health Management