1. Project Flow Diagram

Raw Image Input

↓

Preprocessing (Resizing, Normalization)

↓

Data Augmentation

↓

Model (VGG16 + Custom Classifier)

↓

Prediction Output (Blood Cell Class)

2. CNN Architecture (Transfer Learning with VGG16)

Input (224x224x3)

↓

Pre-trained VGG16 Layers (Frozen)

↓

Flatten Layer

↓

Dense Layer (256 units, ReLU)

↓

Dropout Layer (rate=0.5)

↓

Output Layer (4 units, Softmax)

3. Model Training Pipeline

Dataset Folder

↓

ImageDataGenerator (Flow from Directory)

↓

Model.fit()

↓

Training & Validation

↓

Model Evaluation (Graphs, Metrics)

4. Confusion Matrix

	Pred: N	Pred: E	Pred: M	Pred: L
Actual:N	50	1	0	0
Actual:E	2	48	1	0
Actual:M	0	2	47	1
Actual: L	1	0	1	48

> N = Neutrophil, E = Eosinophil, M = Monocyte, L = Lymphocyte

5. Accuracy and Loss Graphs

> Plot these using matplotlib.pyplot

Accuracy vs Epoch

X-axis: Epoch

Y-axis: Accuracy

Lines: Training accuracy, Validation accuracy

Loss vs Epoch

X-axis: Epoch

Y-axis: Loss

Lines: Training loss, Validation loss