

Project Design Phase

Proposed Solution Template

Date	29 June 2025
Team ID	LTVIP2025TMID59822
Project Name	Hematovision: Advanced Blood Cell Classification using Transfer Learning
Maximum Marks	4 Marks

Proposed Solution Template:

S.No.	Parameter	Description
1.	Problem Statement (Problem to be solved)	To develop a robust, automated system that classifies blood cells accurately using transfer learning, improving diagnostic speed and accuracy in hematology.
2.	Idea / Solution description	High-resolution microscopic images of blood smears labeled with cell types (e.g., WBC, RBC, Platelets, abnormal cells).
3.	Novelty / Uniqueness	Use pre-trained model weights from ImageNet and fine-tune the final few layers (or entire model depending on dataset size).
4.	Social Impact / Customer Satisfaction	Class imbalance (e.g., fewer abnormal cell samples) - Variability in image quality - Need for expert-annotated datasets
5.	Business Model (Revenue Model)	Deploy as a web/mobile interface or integrated into hospital diagnostics software using Flask/Django for inference.
6.	Scalability of the Solution	Extract spatial and textural features from images using convolutional layers.