

Project Design Phase
Proposed Solution Template

Date	15 February 2025
Team ID	LTVIP2026TMIDS76616
Project Name	HematoVision – Advanced Blood Cell Classification Using Transfer Learning
Maximum Marks	2 Marks

Proposed Solution Template:

Project team shall fill the following information in the proposed solution template.

S.No.	Parameter	Description
1.	Problem Statement (Problem to be solved)	Manual blood cell classification using microscopic analysis is time-consuming, prone to human error, and dependent on skilled pathologists. Increasing patient load in hospitals causes delays in diagnostic reports, affecting timely medical treatment.
2.	Idea / Solution description	HematoVision is an AI-powered web-based blood cell classification system that uses Transfer Learning with MobileNetV2 to automatically classify blood smear images into different blood cell types. The system provides fast, accurate, and reliable predictions through a user-friendly interface.
3.	Novelty / Uniqueness	<ul style="list-style-type: none">• Uses Transfer Learning for improved accuracy• Web-based deployment for easy accessibility• Provides confidence score with predictions• Cost-effective compared to high-end lab automation systems
4.	Social Impact / Customer Satisfaction	<ul style="list-style-type: none">• Reduces workload of lab technicians• Improves diagnostic accuracy• Supports rural healthcare centers• Enables faster treatment decisions• Enhances patient trust in diagnosis
5.	Business Model (Revenue Model)	<ul style="list-style-type: none">• Subscription-based model for hospitals• License-based deployment for diagnostic centers• Cloud hosting service charges• Custom deployment support for healthcare institutions
6.	Scalability of the Solution	<ul style="list-style-type: none">• Can be deployed on cloud platforms• Supports increasing number of users and image uploads• Model can be retrained with larger datasets• Can be extended to detect additional blood disorders