

Project Design Phase-II
Solution Requirements (Functional & Non-functional)

Date	31 January 2025
Team ID	LTVIP2026TMIDS76616
Project Name	HematoVision – Advanced Blood Cell Classification Using Transfer Learning
Maximum Marks	4 Marks

Functional Requirements:

Following are the functional requirements of the proposed solution.

FR No.	Functional Requirement (Epic)	Sub Requirement (Story / Sub-Task)
FR-1	Image Upload	Upload blood smear image through web interface Validate image format (JPG, PNG) Preview uploaded image
FR-2	Image Preprocessing	Resize image to required input size Normalize pixel values Prepare image for ML model
FR-3	Blood Cell Classification	Load trained MobileNetV2 model Perform prediction on input image Generate confidence score
FR-4	Result Display	Display predicted blood cell type Show probability percentage Provide clear output on web page
FR-5	Model Management	Allow admin to update trained model Maintain model version control

Non-functional Requirements:

Following are the non-functional requirements of the proposed solution.

FR No.	Non-Functional Requirement	Description
NFR-1	Usability	The system should provide a simple and user-friendly interface for lab technicians and pathologists.
NFR-2	Security	The system should protect user data and prevent unauthorized access.
NFR-3	Reliability	The system should provide consistent and reliable prediction results
NFR-4	Performance	The system should generate prediction results within a few seconds.
NFR-5	Availability	The system should be accessible through web browser anytime.
NFR-6	Scalability	The system should support increasing number of users and image uploads.