

**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	<b>Usability</b>	The system should provide a simple and user-friendly interface for lab technicians and pathologists.
NFR-2	<b>Security</b>	The system should protect user data and prevent unauthorized access.
NFR-3	<b>Reliability</b>	The system should provide consistent and reliable prediction results
NFR-4	<b>Performance</b>	The system should generate prediction results within a few seconds.
NFR-5	<b>Availability</b>	The system should be accessible through web browser anytime.
NFR-6	<b>Scalability</b>	The system should support increasing number of users and image uploads.