

User Acceptance Testing (UAT) Template

Date	15 February 2026
Team ID	LTVIP2026TMIDS40157
Project Name	HematoVision: Advanced Blood Cell Classification Using Transfer Learning
Maximum Marks	

Project Overview

Project Name: HematoVision – Blood Cell Classification System

Project Description:

HematoVision is a deep learning–based system that classifies microscopic blood cell images into four white blood cell types (Eosinophils, Lymphocytes, Monocytes, Neutrophils) using transfer learning with pre-trained Convolutional Neural Networks (CNNs). The system integrates a trained model with a Flask-based web application to provide real-time predictions and diagnostic support for healthcare professionals.

Project Version: v1.0

Testing Period: 01 Mar 2026 – 15 Mar 2026

Testing Scope

- **Features & Functionalities to be Tested:**
 - Image preprocessing (resizing, normalization, augmentation).
 - Model training and prediction accuracy.
 - Image upload and validation
 - Flask-based dashboard functionality.
 - Classification output with confidence score.
 - Confusion matrix and performance visualization.
- **User Stories / Requirements to be Tested:**
 - As a user, I can upload a blood smear image for classification.
 - As a user, I can view predicted blood cell type with confidence score
 - As a user, I receive an error message for invalid image uploads.
 - As a project owner, I can view model accuracy and performance metrics.

Testing Environment

- URL/Location: Localhost (Flask server) – <http://127.0.0.1:5000/>
- Credentials (if required): Not applicable (open access during testing).

Test Cases

Test Case ID	Test Scenario	Test Steps	Expected Result	Actual Result	Pass/Fail
TC-001	Input Validation – Numeric Fields	Enter valid and invalid values for Theoretical Power and Wind Speed	Valid inputs accepted, invalid inputs rejected	–	–
TC-002	Weather API Connection	Select a city and fetch weather data	API responds with temperature, humidity, pressure, wind speed	–	–
TC-003	Prediction Output	Provide valid inputs and click “Predict”	Correct energy output generated by ML model	–	–
TC-004	Error Handling	Submit empty or invalid inputs	Application shows “Invalid Input” message	–	–
TC-005	Dashboard Navigation	Navigate between intro page and prediction page	Pages load correctly, forms and buttons functional	–	–

Bug Tracking

Bug ID	Bug Description	Steps to Reproduce	Severity	Status	Additional Feedback
BG-001	Error message not clear for corrupted image	Upload corrupted image file	Low	Open	Add error message for unsupported cities
BG-002	Slight delay in prediction response	Upload high-resolution image	Medium	Closed	Improve input validation
BG-003	UI alignment issue on small screens	Open dashboard on small resolution	Low	Closed	Fixed with session handling

Sign-off

- Tester Name: Dadi Bhavya Sri
- Date: 16 Mar 2026
- Signature: _____

Notes

- All test cases include both positive and negative scenarios.
- Performance, usability, and stability validated.
- No critical open bugs remain.
- System ready for deployment after final approval.