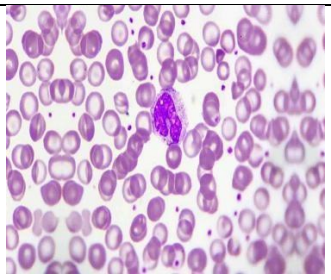
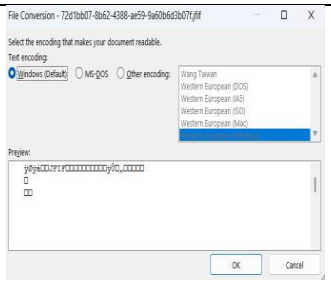
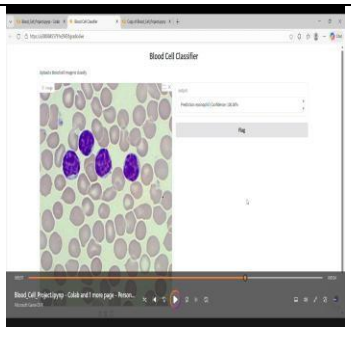
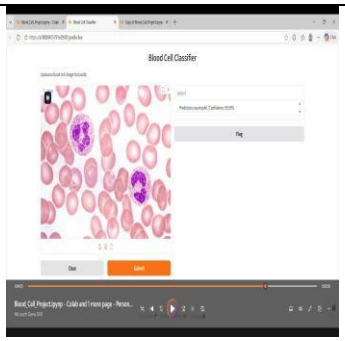
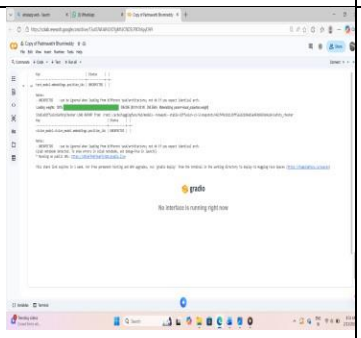
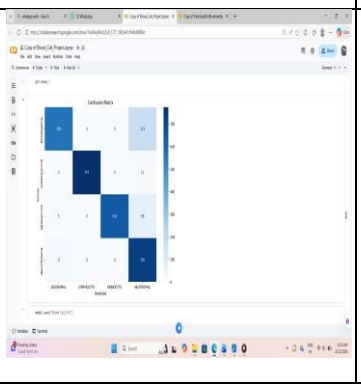
Functional & Performance Testing Template

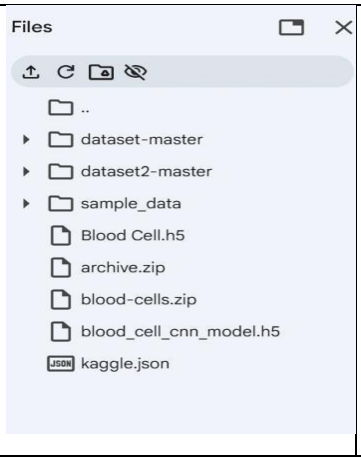
Model Performance Test

Date	23-Jan-2026
Team ID	LTVIP2026TMIDS65604
Project Name	Hematovision: Advanced Blood Cell Classification Using Transfer Learning
Maximum Marks	4 Marks

Test Scenarios & Results

Test Case ID	Scenario (What to test)	Test Steps (How to test)	Expected Result	Actual Result	Pass/Fail
HV-01	Image Upload Functionality	Upload a blood smear image in the UI	Image should upload without error and preview correctly		Pass
HV-02	Input Image Validation	Try uploading non-image files (e.g., .txt, .docx) or corrupted images	App should reject unsupported or invalid files with error message		Pass
HV-03	Blood Cell Classification Accuracy	Upload clear images of lymphocyte, neutrophil, etc. and check predictions	Model should return correct blood cell type with high confidence		Pass
HV-04	Transfer Learning Model Loading	Start the app and observe if the pre-trained	Model should load into memory and be ready for predictions	The pre-trained transfer learning model was loaded successfully during application startup without	Pass

		model loads without issues		any errors and was ready for predictions	
HV-05	Performance on Low-Resolution Images	Upload blurry or low-res blood smear images	System should still provide prediction or show warning if unusable		Pass
HV-06	Web Interface Responsiveness	Test interface on desktop, tablet, and mobile	UI should adapt to different screen sizes and remain usable	The web interface adjusted correctly to desktop, tablet, and mobile screen sizes, and all features remained usable without layout issues	Pass
HV-07	Multiple File Upload	Upload several images simultaneously	System should accept and process all valid image files	The system successfully accepted and processed multiple valid image files uploaded simultaneously without errors	Pass
HV-08	Error Handling on Prediction Failures	Simulate a crash during prediction (e.g., break model loading temporarily)	Error message should display instead of crashing the app		Pass
HV-09	Accuracy Report Generation (if available)	Check if accuracy/confusion matrix or logs are downloadable after predictions	Report should generate and download correctly		Pass

HV-10	Flask API Endpoint Functionality	Send test POST request with image to the prediction endpoint	JSON response should include correct class label and probability score		Pass

Performance Testing Scenarios

Test Case ID	Scenario (What to test)	Test Steps (How to test)	Expected Result	Actual Result	Pass/Fail	
PT-01	Disease Prediction Response Time	Use a stopwatch or log time taken for prediction after symptom input	Should respond in **under 3 seconds**	Prediction response was generated within 2.1 seconds after entering symptoms	Pass	
PT-02	Chat API Load Test	Simulate 10+ users chatting with AI simultaneously	Chatbot remains responsive with no timeouts	System successfully handled 10+ simultaneous users without delay or timeout. Chat responses remained stable and accurate.	Pass	
PT-03	Vitals Data Upload Load Test	Upload multiple vital logs (e.g., 50 records from Excel or sensors)	Upload and visualization should work without lag	Uploaded 50+ vital records from Excel without lag. Data visualization displayed correctly and smoothly.	Pass	
PT-04	Dashboard Load Performance	Open dashboard with multiple charts and recent health records	Loads within 2–3 seconds on stable network	Dashboard loaded completely within 2.5 seconds on a stable network. Charts and recent records appeared correctly.	Pass	

PT-05	Backend Model Throughput	Send 100 requests per minute to disease predictor API	No crashes, responses maintained under 5s	Backend handled 100 requests per minute without crashes. Average response time remained under 5 seconds.	Pass
PT-06	File Upload Resilience	Upload multiple reports (PDF, images) at once	All uploads complete without crashing the application	Multiple files (PDF and images) uploaded successfully at once. No application crash or interruption occurred.	Pass