

Project Design Phase

Solution Architecture

Date	06 February 2026
Team ID	LTVIP2026TMIDS55747
Project Name	Hematovision: Advanced Blood Cell Classification Using Transfer Learning
Maximum Marks	4 Marks

Solution Architecture:

- The architecture bridges the gap between the laboratory problem (manual cell counting) and the technology solution (automated AI classification). Its primary goal is to provide a structure for real-time, high-accuracy diagnostics.

Core Technical Specifications

- Inference Speed:** Standardized at **~250ms** per image for clinical efficiency.
- Accuracy Target:** **94.8% validation accuracy** using the MobileNetV2 engine.
- Structure:** A 3-tier architecture consisting of a Web UI, a Flask backend, and a TensorFlow-based model layer.

Architecture

