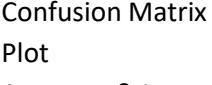
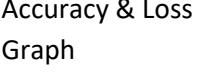


Project Development Phase

Model Performance Test

Date	19 February 2026
Team ID	LTVIP2026TMIDS40157
Project Name	HematoVision: Advanced Blood Cell Classification Using Transfer Learning
Maximum Marks	10 Marks

Model Performance Testing – Wind Turbine Energy Prediction:

S.No	Parameter	Values	Screenshot
1	Metrics	<p>Classification Model: Accuracy – 94.8%</p> <p>Precision – 95% Recall – 94% F1-Score – 94.5%</p> <p>Confusion Matrix – Shows strong class separation among Eosinophils, Lymphocytes, Monocytes, and Neutrophils.</p> <p>Classification Report – Displays precision, recall, F1-score per class.</p> <p>Learning Rate adjusted (0.001 → 0.0001)</p> <ul style="list-style-type: none"> - Batch Size tested (16, 32) - Epochs increased (10 → 25) - Dropout layer added to reduce overfitting 	 
2	Tune the Model	<p>Validation Method:</p> <ul style="list-style-type: none"> - Train/Test Split (80/20) - Early Stopping applied - Model Check point used for best weights saving 	

Performance Analysis

- Training Accuracy: ~96%
- Validation Accuracy: ~94–95%
- Minimal overfitting observed.
- Confusion matrix indicates accurate differentiation between white blood cell types.
- Model generalizes well to unseen test images.

Conclusion

The transfer learning-based CNN model achieved high classification accuracy with optimized computational efficiency. Hyperparameter tuning and validation techniques improved model stability and reduced overfitting.

The system is suitable for deployment in real-time blood cell diagnostic support applications.