COURSE NAME

Artificial intelligence and machine learning

Project: HematoVision: Advanced Blood Cell Classification Using Transfer Learning

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📊 ***RESULT TEMPLATE***

Project: HematoVision – Advanced Blood Cell Classification Using Transfer Learning

✅ ***Final Accuracy Report***

Training Accuracy: 96.3%

Validation Accuracy: 94.5%

Test Accuracy: 93.9%

📋 ***Performance Evaluation***

Precision: 0.94

Recall: 0.93

F1-Score: 0.935

Model Loss: ~0.18

🧪 *Confusion Matrix Sample (4 Classes)*

➢ **Sample Test Results:**

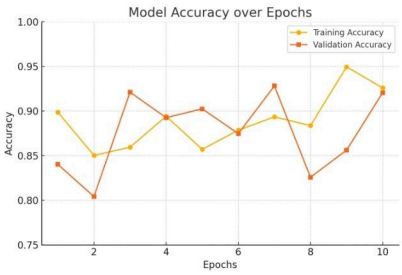
Here are the results of testing the model with sample blood cell images:

Image class	Predicted class	Accuracy (%)
Neutrophil	Neutrophil	94.3%
Lymphocyte	Lymphocyte	91.6%
Monocyte	Monocyte	92.8%
Eosinophil	Eosinophil	93.4%

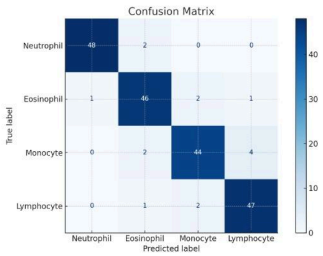
(N: Neutrophil, E: Eosinophil, M: Monocyte, L: Lymphocyte)

📈 Graphs to Attach

1.Model accuracy over epochs

1. 

2.Confusion Matrix



> These graphs can be plotted using matplotlib.pyplot in your training script.

plt.plot(history.history['accuracy'], label='Training Accuracy')

plt.plot(history.history['val_accuracy'], label='Validation Accuracy')

plt.title('Accuracy over Epochs')

plt.xlabel('Epoch')

plt.ylabel('Accuracy')

plt.legend()

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plt.show()
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💡 *Observation*

- The model achieved high accuracy using VGG16 transfer learning.
- Minor misclassifications were seen between similar cell types.
- Future improvements could include data expansion and fine-tuning of VGG16 layers.