

1. Logistic Regression performed best with PCA (~ 0.80), Naive Bayes performed best with GLCM (~ 0.75). These methods reduce noise and dimensionality, highlighting relevant texture and variance patterns.
2. Logistic Regression overall best, especially with PCA, $\text{Acc} \approx 0.80$.
LDA did well on raw pixels (0.77).
Naive Bayes weaker, but still decent with GLCM (0.75).
3. LDA had ~ 0.77 accuracy on raw pixels, but this strategy is not good because pixel data are high-dimensional and noisy, making the model prone to overfitting. Feature extraction provides more robust representations.
4. Advantages: ViT captures high-level semantic features, so even simple classifiers like Naive Bayes can perform well. Saves training time compared to end-to-end training.
Disadvantages: Computationally expensive.
5. The results show that feature extraction is more critical than the classifier itself. With meaningful features, performance is high across models; with poor features, performance drops significantly.