

PancreScan: Final Model Comparison Report

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This report summarizes the performance of three deep learning models trained for pancreatic cancer detection using 5-fold cross-validation.

Cross-Validation Performance (5-Fold)

The table below presents the mean performance metrics across all 5 folds.

Model	Accuracy	F1-Score	Sensitivity (Tumor)	Precision
DenseNet121	98.20% ± 0.93%	0.9817	96.89%	97.97%
EfficientNet-V2-S	98.50% ± 1.14%	0.9846	98.96%	98.52%
ConvNeXt-Tiny	98.30% ± 0.68%	0.9826	97.75%	98.15%

Test Set Performance (Unseen Data)

The table below presents the performance on the independent test set.

Model	Test Accuracy	F1-Score	Sensitivity	Precision
densenet121	100.00%	1.0000	100.00%	100.00%
efficientnet_b0	100.00%	1.0000	100.00%	100.00%
ensemble	100.00%	1.0000	100.00%	100.00%

Detailed CV Analysis

DenseNet121

- Mean Accuracy: 98.20%
- Best Fold Accuracy: 99.00%
- Mean F1-Score: 0.9817
- Training Config: 20 Epochs, Batch Size 16, AdamW

EfficientNet-V2-S

- **Mean Accuracy:** 98.50%
- **Best Fold Accuracy:** 100.00%
- **Mean F1-Score:** 0.9846
- **Training Config:** 20 Epochs, Batch Size 16, AdamW

ConvNeXt-Tiny

- **Mean Accuracy:** 98.30%
- **Best Fold Accuracy:** 99.50%
- **Mean F1-Score:** 0.9826
- **Training Config:** 20 Epochs, Batch Size 16, AdamW