

Model (after regularization)	Epochs	Hyperparameter	Data	Accuracy	Loss	AUC
Standard CNN	30	Activation:ReLU, softmax Kernel size: (3,3) MaxPooling: (2,2) Padding Optimizer: Adam Learning rate:0.001	Training	95.61%	0.1217	0.9949
			Validation	83.13%	0.7376	0.8313
			Test	83.54%	0.714	0.9387
Separable CNN	50		Training	91.32%	0.2207	0.9853
			Validation	89.04%	0.3161	0.9735
			Test	89.36%	0.3571	0.9704
Grouped CNN	50		Training	90.70%	0.2317	0.9841
			Validation	80.33%	0.4886	0.9357
			Test	80.43%	0.4941	0.9361

Table 1 Comparison of Accuracy, Loss, AUC for Standard CNN, Separable CNN and Grouped CNN

Model	Macro Average		
	Precision	Recall	F1-score
Standard CNN	0.85	0.84	0.83
Separable CNN	0.89	0.90	0.90
Grouped CNN	0.82	0.84	0.81

Table 2 Macro averaging precision, recall and f1-score comparison.

Based on the results, separable CNN has the best performance. Hence, it was further trained using a larger image size (224*224) and compared to the relevant work model.