40X			
Model	Feature	Technique	Accuracy
DL	Xception	LSTM	0.9208
HF + ML	LBP + LPQ	Linear SVM	0.859
HF + ML	LBP + LPQ + GLCM	Linear SVM	0.859
DL + ML (TL)	VGG 19 + RESNET 152	SVM	0.8456
DL + ML (TL)	VGG 19 + RESNET 152 + IV3	SVM	0.8456
DL		ResNet 152	0.8437
HF + ML	LBP + LPQ + GLCM	Adaboost	0.8389
HF + ML	LBP + LPQ + GLCM	Random Forest	0.8389
HF + ML	LBP + LPQ	Gradient Boosting	0.8375
DL + ML (TL)	VGG 19	SVM	0.8335
HF + ML	LBP + LPQ	Random Forest	0.8281
HF + ML	LBP + LPQ + GLCM	Gradient Boosting	0.8281
HF + ML	LBP + LPQ	Extremely Trees	0.8255
HF + ML	LPQ	Linear SVM	0.8214
HF + ML	LBP + LPQ + GLCM	Extremely Trees	0.8201
HF + ML	LBP + LPQ	Adaboost	0.812
DL + ML (TL)	VGG 19	Extremely Trees	0.808
HF + ML	LBP	Extremely Trees	0.8053
HF + ML	LPQ	Random Forest	0.8053
HF + ML	LBP	Random Forest	0.8013
HF + ML	LPQ	Extremely Trees	0.8
DL + ML (TL)	VGG 19	Random Forest	0.7986
DL + ML (FT)	VGG 19 + RESNET 152	Random Forest	0.7986
DL + ML (FT)	VGG 19 + RESNET 152	Extremely Trees	0.7973
HF + ML	LBP	SVM	0.7973
DL + ML (TL)	VGG 19 + RESNET 152 + IV3	Linear SVM	0.7946
DL + ML (TL)	VGG 19	Linear SVM	0.7932
DL + ML (TL)	VGG 19 + RESNET 152	Linear SVM	0.7932
DL + ML (TL)	VGG 19 + RESNET 152	Random Forest	0.7919
DL + ML (TL)	VGG 19 + RESNET 152	Extremely Trees	0.7892
HF + ML	LBP	Linear SVM	0.7892
HF + ML	LPQ	Adaboost	0.7892
DL + ML (FT)	VGG 19 + RESNET 152 + IV3	Extremely Trees	0.7879
HF + ML	LBP + LPQ	Decision Tree	0.7879
HF + ML	LBP	Gradient Boosting	0.7865
DL + ML (TL)	VGG 19	SGD	0.7838
DL + ML (FT)	VGG 19 + RESNET 152 + IV3	Random Forest	0.7838
HF + ML	LBP + LPQ + GLCM	Decision Tree	0.7828
HF + ML	LBP	Adaboost	0.7825
DL + ML (TL)	VGG 19 + RESNET 152	SGD	0.7812
HF + ML	LPQ	Gradient Boosting	0.7771
HF + ML	LBP + LPQ + GLCM	SVM	0.7771
DL + ML (TL)	VGG 19	Adaboost	0.7758
DL + ML (FT)	VGG 19	Extremely Trees	0.7758
HF + ML	LBP	KNN	0.7758
DL + ML (TL)	VGG 19	KNN	0.774
DL + ML (TL)	VGG 19 + RESNET 152	KNN	0.7718
DL + ML (TL)	VGG 19 + RESNET 152 + IV3	KNN	0.7718
DL + ML (FT)	VGG 19 + RESNET 152 + IV3	Adaboost	0.7704
DL + ML (TL)	VGG 19 + RESNET 152 + IV3	Random Forest	0.7691
DL + ML (TL)	VGG 19 + RESNET 152 + IV3	Extremely Trees	0.7691
DL + ML (FT)	VGG 19	Naive Bayes	0.7691
DL + ML (FT)	VGG 19	Random Forest	0.7691
DL + ML (TL)	VGG 19	Gradient Boosting	0.7664
DL + ML (FT)	VGG 19 + RESNET 152	Linear SVM	0.7664
DL + ML (TL)	VGG 19 + RESNET 152	Gradient Boosting	0.7651
DL + ML (FT)	VGG 19 + RESNET 152	Adaboost	0.7651
DL + ML (TL)	VGG 19 + RESNET 152 + IV3	Gradient Boosting	0.7637
DL + ML (FT)	VGG 19 + RESNET 152	Gradient Boosting	0.7637
DL + ML (TL)	VGG 19 + RESNET 152	Adaboost	0.7624
DL + ML (FT)	VGG 19 + RESNET 152 + IV3	Naive Bayes	0.7624
DL + ML (FT)	VGG 19 + RESNET 152	Naive Bayes	0.761
DL + ML (FT)	VGG 19 + RESNET 152 + IV3	Gradient Boosting	0.7597
HF + ML	LPQ	KNN	0.7597
DL + ML (FT)	VGG 19	SGD	0.7583
DL + ML (FT)	VGG 19	KNN	0.7557
DL + ML (FT)	VGG 19 + RESNET 152	SGD	0.7557
DL + ML (FT)	VGG 19	Linear SVM	0.7516
DL + ML (TL)	RESNET 152	Linear SVM	0.7503
HF + ML	LBP + LPQ	SVM	0.7503
DL + ML (FT)	VGG 19 + RESNET 152	KNN	0.7489
DL + ML (FT)	VGG 19 + RESNET 152 + IV3	Linear SVM	0.7489
DL + ML (TL)	VGG 19 + RESNET 152 + IV3	Adaboost	0.7476
HF + ML	LBP + LPQ	KNN	0.7476
DL + ML (FT)	VGG 19	Gradient Boosting	0.7422
HF + ML	LPQ	Decision Tree	0.7369
DL + ML (FT)	VGG 19	Adaboost	0.7355
DL + ML (FT)	VGG 19 + RESNET 152	Decision Tree	0.7208
HF + ML	LBP	Decision Tree	0.7181
HF + ML	SIFT	Linear SVM	0.7167

40X			
Model	Feature	Technique	AUC
DL		ResNet 152	1
DL	Xception	LSTM	0.98
HF + ML	LBP + LPQ	Linear SVM	0.94
HF + ML	LBP + LPQ + GLCM	Linear SVM	0.94
HF + ML	LBP + LPQ	Gradient Boosting	0.92
HF + ML	LBP + LPQ + GLCM	Adaboost	0.91
DL + ML (TL)	VGG 19 + RESNET 152	SVM	0.9
DL + ML (TL)	VGG 19 + RESNET 152 + IV3	SVM	0.9
HF + ML	LBP + LPQ	Adaboost	0.9
HF + ML	LBP + LPQ + GLCM	Gradient Boosting	0.9
DL + ML	VGG 19	SVM	0.89
HF + ML	LPQ	Linear SVM	0.89
HF + ML	LBP + LPQ	Random Forest	0.89
HF + ML	LBP + LPQ + GLCM	Random Forest	0.89
HF + ML	LBP	Random Forest	0.88
HF + ML	LBP	Extremely Trees	0.88
HF + ML	LPQ	Random Forest	0.88
HF + ML	LPQ	Extremely Trees	0.88
HF + ML	LBP + LPQ	Extremely Trees	0.88
HF + ML	LBP + LPQ + GLCM	Extremely Trees	0.88
DL + ML	VGG 19	Extremely Trees	0.87
DL + ML	VGG 19	Random Forest	0.86
DL + ML	VGG 19	Linear SVM	0.86
DL + ML (TL)	VGG 19 + RESNET 152	Random Forest	0.86
DL + ML (TL)	VGG 19 + RESNET 152	Extremely Trees	0.86
DL + ML (TL)	VGG 19 + RESNET 152	Linear SVM	0.86
DL + ML (TL)	VGG 19 + RESNET 152 + IV3	Linear SVM	0.86
HF + ML	LBP	Adaboost	0.86
HF + ML	LBP + LPQ	SVM	0.86
HF + ML	LBP + LPQ + GLCM	SVM	0.86
DL + ML (TL)	VGG 19 + RESNET 152 + IV3	Random Forest	0.85
DL + ML (TL)	VGG 19 + RESNET 152 + IV3	Extremely Trees	0.85
DL + ML (FT)	VGG 19 + RESNET 152	Extremely Trees	0.85
HF + ML	LBP	Gradient Boosting	0.85
HF + ML	LPQ	Adaboost	0.85
DL + ML (FT)	VGG 19 + RESNET 152	Random Forest	0.84
DL + ML (FT)	VGG 19 + RESNET 152 + IV3	Random Forest	0.84
DL + ML (FT)	VGG 19 + RESNET 152 + IV3	Extremely Trees	0.84
HF + ML	LBP	Linear SVM	0.84
HF + ML	LBP	SVM	0.84
HF + ML	LPQ	Gradient Boosting	0.84
DL + ML (FT)	VGG 19	Random Forest	0.83
DL + ML (FT)	VGG 19	Extremely Trees	0.83
DL + ML (FT)	VGG 19 + RESNET 152	Gradient Boosting	0.83
DL + ML	VGG 19	Adaboost	0.82
DL + ML	VGG 19	Gradient Boosting	0.82
DL + ML (TL)	VGG 19 + RESNET 152	SGD	0.82
DL + ML (TL)	VGG 19 + RESNET 152	Adaboost	0.82
DL + ML (TL)	VGG 19 + RESNET 152	Gradient Boosting	0.82
DL + ML (FT)	VGG 19 + RESNET 152 + IV3	Adaboost	0.82
DL + ML (TL)	VGG 19 + RESNET 152 + IV3	Adaboost	0.81
DL + ML (TL)	VGG 19 + RESNET 152 + IV3	Gradient Boosting	0.81
DL + ML (FT)	VGG 19 + RESNET 152	Adaboost	0.81
DL + ML (FT)	VGG 19 + RESNET 152 + IV3	Gradient Boosting	0.81
HF + ML	LBP	KNN	0.81
DL + ML (TL)	RESNET 152	Linear SVM	0.8
DL + ML (TL)	VGG 19 + RESNET 152 + IV3	SGD	0.8
DL + ML (FT)	VGG 19	Gradient Boosting	0.8
DL + ML (FT)	VGG 19 + RESNET 152	Linear SVM	0.8
HF + ML	LPQ	KNN	0.8
DL + ML	VGG 19	KNN	0.79
DL + ML (TL)	VGG 19 + RESNET 152	KNN	0.79
DL + ML (TL)	VGG 19 + RESNET 152 + IV3	KNN	0.79
DL + ML (FT)	VGG 19	Adaboost	0.79
DL + ML (FT)	VGG 19	Linear SVM	0.79
DL + ML (FT)	VGG 19 + RESNET 152 + IV3	Linear SVM	0.79
DL + ML	VGG 19	SGD	0.78
DL + ML (FT)	VGG 19 + RESNET 152	KNN	0.78
DL + ML	VGG 19	Naive Bayes	0.77
DL + ML (FT)	VGG 19	KNN	0.77
DL + ML (TL)	RESNET 152	Random Forest	0.76
DL + ML (TL)	RESNET 152	Extremely Trees	0.76
HF + ML	LBP + LPQ	KNN	0.76
HF + ML	SIFT	Extremely Trees	0.75
HF + ML	SIFT	SVM	0.75
HF + ML	LPQ	SVM	0.75
DL + ML (TL)	VGG 19 + RESNET 152	Naive Bayes	0.74
DL + ML (FT)	VGG 19 + RESNET 152	SGD	0.74
HF + ML	SIFT	Adaboost	0.74
HF + ML	SIFT	Gradient Boosting	0.74

DL + ML (TL)	VGG 19	Naive Bayes	0.7154
DL + ML (TL)	VGG 19	Decision Tree	0.7154
DL + ML (FT)	VGG 19 + RESNET 152 + IV3	KNN	0.7154
HF + ML	SIFT	KNN	0.714
HF + ML	LBP + LPQ + GLCM	KNN	0.714
DL + ML (FT)	VGG 19 + RESNET 152 + IV3	SGD	0.7114
HF + ML	SIFT	Adaboost	0.7073
HF + ML	LPQ	SVM	0.7073
HF + ML	SIFT	SVM	0.7033
HF + ML	SIFT	Gradient Boosting	0.702
DL + ML (TL)	RESNET 152	Random Forest	0.7006
DL + ML (FT)	VGG 19 + RESNET 152 + IV3	Decision Tree	0.7006
DL + ML (FT)	VGG 19	Decision Tree	0.6993
DL + ML (TL)	RESNET 152	Gradient Boosting	0.6953
DL + ML (TL)	VGG 19 + RESNET 152 + IV3	Decision Tree	0.6953
DL + ML (TL)	RESNET 152	KNN	0.6926
DL + ML (TL)	VGG 19 + RESNET 152	Decision Tree	0.6926
HF + ML	SIFT	Extremely Trees	0.6926
DL + ML (TL)	RESNET 152	Extremely Trees	0.6885
HF + ML	SIFT	Random Forest	0.6832
DL + ML (TL)	RESNET 152	Adaboost	0.6818
DL + ML (TL)	VGG 19 + RESNET 152 + IV3	SGD	0.6765
HF + ML	LBP + LPQ + GLCM	Naive Bayes	0.6697
DL + ML (FT)	RESNET 152	SGD	0.6684
HF + ML	LPQ	Naive Bayes	0.6684
HF + ML	LBP + LPQ	Naive Bayes	0.6644
DL + ML (TL)	RESNET 152	SGD	0.659
DL + ML (TL)	RESNET 152	SVM	0.6577
DL + ML (TL)	IV3	Linear SVM	0.6577
DL + ML (TL)	IV3	SVM	0.6577
DL + ML (FT)	VGG 19	SVM	0.6577
DL + ML (FT)	RESNET 152	SVM	0.6577
DL + ML (FT)	IV3	SVM	0.6577
DL + ML (FT)	VGG 19 + RESNET 152	SVM	0.6577
DL + ML (FT)	VGG 19 + RESNET 152 + IV3	SVM	0.6577
HF + ML	HOG	SVM	0.6577
HF + ML	Haralick	Linear SVM	0.6577
HF + ML	Haralick	SVM	0.6577
HF + ML	LBP	SGD	0.6577
HF + ML	LPQ	SGD	0.6577
DL + ML (TL)	VGG 19 + RESNET 152	Naive Bayes	0.6563
DL + ML (FT)	RESNET 152	Random Forest	0.6563
DL + ML (FT)	RESNET 152	Extremely Trees	0.6563
HF + ML	LBP + LPQ	SGD	0.6553
HF + ML	Haralick	Gradient Boosting	0.651
HF + ML	Haralick	Extremely Trees	0.6496
DL + ML (FT)	RESNET 152	Linear SVM	0.6469
HF + ML	LBP	Naive Bayes	0.6469
DL + ML (TL)	VGG 19 + RESNET 152 + IV3	Naive Bayes	0.6456
HF + ML	Haralick	Random Forest	0.6442
DL + ML (FT)	RESNET 152	Adaboost	0.6402
DL + ML (FT)	RESNET 152	Gradient Boosting	0.6375
DL + ML (FT)	IV3	SGD	0.6375
HF + ML	Haralick	SGD	0.6335
HF + ML	SIFT	Decision Tree	0.6322
HF + ML	SIFT	Naive Bayes	0.6241
HF + ML	SIFT	SGD	0.6214
HF + ML	Haralick	Adaboost	0.6214
DL + ML (FT)	RESNET 152	KNN	0.6201
HF + ML	Haralick	KNN	0.6134
DL + ML (TL)	RESNET 152	Naive Bayes	0.6093
HF + ML	HOG	Linear SVM	0.604
HF + ML	Haralick	Decision Tree	0.5986
HF + ML	HOG	SGD	0.5959
DL + ML (TL)	RESNET 152	Decision Tree	0.5879
HF + ML	HOG	Naive Bayes	0.5838
DL + ML (FT)	RESNET 152	Decision Tree	0.5758
DL + ML (FT)	RESNET 152	Naive Bayes	0.5704
HF + ML	HOG	Adaboost	0.5637
DL + ML (TL)	IV3	Random Forest	0.5597
HF + ML	HOG	KNN	0.5597
DL + ML (TL)	IV3	Extremely Trees	0.5516
HF + ML	HOG	Extremely Trees	0.5503
DL + ML (TL)	IV3	Decision Tree	0.5476
DL + ML (FT)	IV3	Extremely Trees	0.5476
HF + ML	HOG	Random Forest	0.5422
HF + ML	LBP + LPQ + GLCM	SGD	0.5395
DL + ML (FT)	IV3	Random Forest	0.5335
DL + ML (TL)	IV3	Naive Bayes	0.5328
HF + ML	HOG	Gradient Boosting	0.5315
HF + ML	HOG	Decision Tree	0.5248
DL + ML (FT)	IV3	KNN	0.5154

HF + ML	SIFT	Linear SVM	0.74
HF + ML	LBP + LPQ + GLCM	Decision Tree	0.74
DL + ML (TL)	RESNET 152	SGD	0.73
DL + ML (FT)	VGG 19	SGD	0.73
DL + ML (FT)	VGG 19 + RESNET 152 + IV3	KNN	0.72
HF + ML	SIFT	KNN	0.72
HF + ML	SIFT	Random Forest	0.72
HF + ML	LBP	Naive Bayes	0.72
HF + ML	LPQ	SGD	0.72
HF + ML	LBP + LPQ	Decision Tree	0.72
DL + ML (TL)	RESNET 152	KNN	0.71
DL + ML (TL)	RESNET 152	Gradient Boosting	0.71
DL + ML (FT)	VGG 19	Naive Bayes	0.71
DL + ML (FT)	VGG 19 + RESNET 152	Decision Tree	0.71
DL + ML (FT)	VGG 19 + RESNET 152 + IV3	Naive Bayes	0.71
HF + ML	LBP	Decision Tree	0.71
HF + ML	LPQ	Decision Tree	0.71
DL + ML	VGG 19	Decision Tree	0.7
DL + ML (TL)	RESNET 152	Adaboost	0.7
DL + ML (TL)	RESNET 152	SVM	0.7
DL + ML (TL)	VGG 19 + RESNET 152 + IV3	Decision Tree	0.7
DL + ML (FT)	VGG 19	Decision Tree	0.7
DL + ML (FT)	VGG 19 + RESNET 152	Naive Bayes	0.7
HF + ML	Haralick	Extremely Trees	0.7
DL + ML (TL)	VGG 19 + RESNET 152	Decision Tree	0.69
DL + ML (TL)	VGG 19 + RESNET 152 + IV3	Naive Bayes	0.69
DL + ML (FT)	RESNET 152	Extremely Trees	0.69
HF + ML	SIFT	SGD	0.69
DL + ML (TL)	RESNET 152	Naive Bayes	0.68
DL + ML (FT)	RESNET 152	Adaboost	0.68
DL + ML (FT)	RESNET 152	Random Forest	0.68
DL + ML (FT)	RESNET 152	Linear SVM	0.68
DL + ML (FT)	VGG 19 + RESNET 152 + IV3	Decision Tree	0.68
HF + ML	Haralick	Random Forest	0.68
HF + ML	LBP + LPQ + GLCM	KNN	0.68
DL + ML (FT)	RESNET 152	Gradient Boosting	0.67
HF + ML	LBP + LPQ	SGD	0.67
HF + ML	SIFT	Naive Bayes	0.66
DL + ML (FT)	VGG 19 + RESNET 152 + IV3	SGD	0.65
HF + ML	Haralick	Gradient Boosting	0.64
DL + ML (FT)	RESNET 152	KNN	0.63
DL + ML (FT)	RESNET 152	SVM	0.63
HF + ML	Haralick	KNN	0.62
HF + ML	Haralick	Adaboost	0.62
HF + ML	LBP + LPQ + GLCM	SGD	0.61
HF + ML	SIFT	Decision Tree	0.6
DL + ML (TL)	RESNET 152	Decision Tree	0.59
DL + ML (FT)	RESNET 152	Naive Bayes	0.58
DL + ML (FT)	RESNET 152	Decision Tree	0.57
HF + ML	Haralick	Decision Tree	0.57
HF + ML	LPQ	Naive Bayes	0.56
HF + ML	LBP + LPQ + GLCM	Naive Bayes	0.56
HF + ML	LBP + LPQ	Naive Bayes	0.55
HF + ML	Haralick	Naive Bayes	0.54
DL + ML (TL)	IV3	Extremely Trees	0.53
DL + ML (FT)	VGG 19 + RESNET 152 + IV3	SVM	0.53
DL + ML (TL)	IV3	Decision Tree	0.52
DL + ML (TL)	IV3	Random Forest	0.52
DL + ML (FT)	IV3	Extremely Trees	0.52
HF + ML	HOG	Adaboost	0.52
DL + ML (FT)	IV3	Random Forest	0.51
HF + ML	HOG	Random Forest	0.51
HF + ML	HOG	Extremely Trees	0.51
HF + ML	HOG	Linear SVM	0.51
DL + ML (TL)	IV3	KNN	0.5
DL + ML (TL)	IV3	SVM	0.5
DL + ML (FT)	RESNET 152	SGD	0.5
DL + ML (FT)	IV3	KNN	0.5
DL + ML (FT)	VGG 19 + RESNET 152	SVM	0.5
HF + ML	HOG	SGD	0.5
HF + ML	Haralick	SGD	0.5
HF + ML	Haralick	SVM	0.5
HF + ML	LBP	SGD	0.5
DL + ML (FT)	IV3	Decision Tree	0.49
DL + ML (FT)	IV3	Adaboost	0.49
DL + ML (FT)	IV3	Gradient Boosting	0.49
HF + ML	HOG	KNN	0.49
HF + ML	HOG	SVM	0.49
HF + ML	HOG	Naive Bayes	0.48
HF + ML	HOG	Decision Tree	0.48
DL + ML (TL)	IV3	Adaboost	0.47
DL + ML (TL)	IV3	Linear SVM	0.47

DL + ML (TL)	IV3	SGD	0.5127
DL + ML (TL)	IV3	Gradient Boosting	0.5073
DL + ML (FT)	IV3	Gradient Boosting	0.5073
DL + ML (TL)	IV3	KNN	0.5046
DL + ML (TL)	IV3	Adaboost	0.4966
DL + ML (FT)	IV3	Decision Tree	0.4939
DL + ML (FT)	IV3	Adaboost	0.4912
DL + ML (FT)	IV3	Linear SVM	0.4697
DL + ML (FT)	IV3	Naive Bayes	0.4671
HF + ML	Haralick	Naive Bayes	0.4134

DL + ML (FT)	VGG 19	SVM	0.47
DL + ML (FT)	IV3	SGD	0.47
DL + ML (FT)	IV3	SVM	0.47
DL + ML (TL)	IV3	Naive Bayes	0.46
DL + ML (TL)	IV3	Gradient Boosting	0.46
DL + ML (FT)	IV3	Naive Bayes	0.46
HF + ML	HOG	Gradient Boosting	0.46
HF + ML	Haralick	Linear SVM	0.45
DL + ML (TL)	IV3	SGD	0.44
DL + ML (FT)	IV3	Linear SVM	0.43