100X			
Model	Feature	Technique	Accuracy
DL	Xception	LSTM	0.9184
DL		ResNet 152	0.85
HF + ML	LBP + LPQ	Linear SVM	0.8302
HF + ML	LBP + LPQ + GLCM	Linear SVM	0.8236
DL + ML	VGG 19	Linear SVM	0.8171
DL + ML (TL)	VGG 19 + RESNET 152 + IV3	SGD	0.8171
HF + ML	LBP + LPQ + GLCM	Gradient Boosting	0.8144
DL + ML (TL)	VGG 19 + RESNET 152	SVM	0.8131
DL + ML (TL)	VGG 19 + RESNET 152 + IV3	Linear SVM	0.8118
DL + ML (TL)	VGG 19 + RESNET 152 + IV3	SVM	0.8118
DL + ML (TL)	VGG 19 + RESNET 152	Linear SVM	0.8105
DL + ML (TL)	VGG 19 + RESNET 152 + IV3	Adaboost	0.8092
DL + ML (TL)	VGG 19 + RESNET 152	Random Forest	0.8078
DL + ML (TL)	VGG 19 + RESNET 152	Extremely Trees	0.8039
DL + ML (TL)	VGG 19 + RESNET 152 + IV3	Random Forest	0.8039
HF + ML	LBP + LPQ	Adaboost	0.8026
DL + ML (TL)	VGG 19 + RESNET 152 + IV3	Gradient Boosting	0.8013
DL + ML (TL)	VGG 19 + RESNET 152	Adaboost	0.7973
DL + ML	VGG 19	SVM	0.7934
DL + ML	VGG 19	SGD	0.7921
HF + ML	LBP + LPQ	Gradient Boosting	0.7907
HF + ML	LBP + LPQ + GLCM	Adaboost	0.7881
DL + ML	VGG 19	Random Forest	0.7868
DL + ML (TL)	VGG 19 + RESNET 152 + IV3	Extremely Trees	0.7868
HF + ML	LBP	Random Forest	0.7868
DL + ML (FT)	VGG 19 + RESNET 152	Random Forest	0.7855
DL + ML	VGG 19	Extremely Trees	0.7842
DL + ML (TL)	VGG 19 + RESNET 152	Gradient Boosting	0.7842
DL + ML (TL)	VGG 19 + RESNET 152	SGD	0.7828
DL + ML (FT)	RESNET 152	Linear SVM	0.7828
DL + ML (FT)	VGG 19 + RESNET 152	Extremely Trees	0.7828
DL + ML	VGG 19	Gradient Boosting	0.7776
HF + ML	LBP	Extremely Trees	0.7763
HF + ML	LBP + LPQ	Random Forest	0.7763
HF + ML	LPQ	Gradient Boosting	0.775
HF + ML	LBP + LPQ + GLCM	SVM	0.771
DL + ML	VGG 19	Adaboost	0.7684
DL + ML (FT)	VGG 19 + RESNET 152	Linear SVM	0.7684
DL + ML (FT)	VGG 19 + RESNET 152 + IV3	Extremely Trees	0.7684
HF + ML	LBP	Linear SVM	0.7671
HF + ML	LPQ	Adaboost	0.7671
HF + ML	LPQ	Linear SVM	0.7657
HF + ML	LBP + LPQ + GLCM	Random Forest	0.7631
HF + ML	LBP	Gradient Boosting	0.7618
HF + ML	LBP	SVM	0.76
HF + ML	LBP + LPQ	Extremely Trees	0.7578
DL + ML (FT)	VGG 19 + RESNET 152 + IV3	Random Forest	0.7565
HF + ML	LBP + LPQ	SVM	0.7565
DL + ML (FT)	VGG 19	Extremely Trees	0.7552
HF + ML	LPQ	KNN	0.7552
HF + ML	LPQ	Random Forest	0.7552
DL + ML (FT)	VGG 19 + RESNET 152	KNN	0.7539
HF + ML	LBP + LPQ	KNN	0.7526
HF + ML	LBP + LPQ + GLCM	Extremely Trees	0.7513
DL + ML (FT)	VGG 19 + RESNET 152 + IV3	Linear SVM	0.75
DL + ML (FT)	VGG 19	Random Forest	0.7473
HF + ML	LPQ	Extremely Trees	0.7394
HF + ML	LBP	Adaboost	0.7381
DL + ML (TL)	RESNET 152	Linear SVM	0.7368
DL + ML	VGG 19	KNN	0.7342
DL + ML (TL)	VGG 19 + RESNET 152	KNN	0.7342
DL + ML (TL)	VGG 19 + RESNET 152 + IV3	KNN	0.7342
DL + ML (FT)	VGG 19 + RESNET 152 + IV3	Adaboost	0.7342
DL + ML (FT)	VGG 19 + RESNET 152 + IV3	Gradient Boosting	0.7342
DL + ML (FT)	RESNET 152	Random Forest	0.7328
DL + ML (FT)	VGG 19 + RESNET 152	Adaboost	0.7315
DL + ML (TL)	RESNET 152	Random Forest	0.7302
DL + ML (TL)	RESNET 152	Extremely Trees	0.7276
DL + ML (FT)	VGG 19	Adaboost	0.7263
DL + ML (FT)	VGG 19 + RESNET 152	Gradient Boosting	0.725
HF + ML	LPQ	Decision Tree	0.7184
HF + ML	LBP	KNN	0.7171
DL + ML (FT)	RESNET 152	Gradient Boosting	0.7157
DL + ML (TL)	RESNET 152	Adaboost	0.7131
DL + ML (FT)	VGG 19 + RESNET 152 + IV3	SGD	0.7131
HF + ML	LBP	Decision Tree	0.7131
HF + ML	LBP + LPQ	Decision Tree	0.7118
DL + ML (FT)	RESNET 152	Extremely Trees	0.7105
DL + ML (TL)	RESNET 152	Gradient Boosting	0.7092
HF + ML	Haralick	SVM	0.7092

100X			
Model	Feature	Technique	AUC
DL		ResNet 152	1
DL	Xception	LSTM	0.98
HF + ML	LBP + LPQ	Linear SVM	0.9
DL + ML (TL)	VGG 19 + RESNET 152	SVM	0.89
DL + ML (TL)	VGG 19 + RESNET 152 + IV3	SVM	0.89
HF + ML	LBP + LPQ + GLCM	Linear SVM	0.89
DL + ML (TL)	VGG 19 + RESNET 152	Random Forest	0.88
DL + ML (TL)	VGG 19 + RESNET 152	Extremely Trees	0.88
HF + ML	LBP + LPQ + GLCM	Gradient Boosting	0.88
DL + ML	VGG 19	Random Forest	0.87
DL + ML	VGG 19	Extremely Trees	0.87
DL + ML	VGG 19	SVM	0.87
DL + ML (TL)	VGG 19 + RESNET 152	Gradient Boosting	0.87
DL + ML (TL)	VGG 19 + RESNET 152	Linear SVM	0.87
DL + ML (TL)	VGG 19 + RESNET 152 + IV3	Gradient Boosting	0.87
DL + ML (TL)	VGG 19 + RESNET 152 + IV3	Random Forest	0.87
DL + ML (TL)	VGG 19 + RESNET 152 + IV3	Extremely Trees	0.87
DL + ML (TL)	VGG 19 + RESNET 152 + IV3	Linear SVM	0.87
HF + ML	LBP + LPQ	Adaboost	0.87
HF + ML	LBP + LPQ	Gradient Boosting	0.87
HF + ML	LBP + LPQ	SVM	0.87
DL + ML	VGG 19	Linear SVM	0.86
DL + ML (TL)	VGG 19 + RESNET 152	Adaboost	0.86
DL + ML (TL)	VGG 19 + RESNET 152 + IV3	Adaboost	0.86
HF + ML	LBP + LPQ + GLCM	SVM	0.86
DL + ML	VGG 19	Gradient Boosting	0.85
DL + ML (FT)	VGG 19 + RESNET 152	Random Forest	0.85
DL + ML (FT)	VGG 19 + RESNET 152	Extremely Trees	0.85
HF + ML	LBP	Extremely Trees	0.85
DL + ML	VGG 19	Adaboost	0.84
DL + ML (TL)	VGG 19 + RESNET 152 + IV3	SGD	0.84
DL + ML (FT)	VGG 19	Extremely Trees	0.84
DL + ML (FT)	RESNET 152	Linear SVM	0.84
DL + ML (FT)	VGG 19 + RESNET 152	Linear SVM	0.84
DL + ML (FT)	VGG 19 + RESNET 152 + IV3	Extremely Trees	0.84
HF + ML	LBP	Random Forest	0.84
HF + ML	LPQ	Gradient Boosting	0.84
HF + ML	LBP + LPQ	Extremely Trees	0.84
HF + ML	LBP + LPQ + GLCM	Adaboost	0.84
DL + ML (FT)	VGG 19	Random Forest	0.83
DL + ML (FT)	VGG 19 + RESNET 152 + IV3	Random Forest	0.83
HF + ML	LBP	SVM	0.83
HF + ML	LPQ	Random Forest	0.83
HF + ML	LPQ	Linear SVM	0.83
HF + ML	LBP + LPQ	Random Forest	0.83
HF + ML	LBP + LPQ + GLCM	Extremely Trees	0.83
HF + ML	LBP	Gradient Boosting	0.82
HF + ML	LBP	Linear SVM	0.82
HF + ML	LPQ	Adaboost	0.82
HF + ML	LPQ	Extremely Trees	0.82
HF + ML	LBP + LPQ + GLCM	Random Forest	0.82
DL + ML	VGG 19	SGD	0.81
DL + ML (FT)	VGG 19	Naive Bayes	0.81
DL + ML (FT)	VGG 19 + RESNET 152	Naive Bayes	0.81
DL + ML (FT)	VGG 19 + RESNET 152 + IV3	Naive Bayes	0.81
DL + ML (FT)	VGG 19 + RESNET 152 + IV3	Linear SVM	0.81
DL + ML (FT)	RESNET 152	Random Forest	0.8
DL + ML (FT)	VGG 19 + RESNET 152	Adaboost	0.8
DL + ML (FT)	VGG 19 + RESNET 152 + IV3	Gradient Boosting	0.8
DL + ML (TL)	RESNET 152	Random Forest	0.79
DL + ML (TL)	RESNET 152	Linear SVM	0.79
DL + ML (FT)	VGG 19	Adaboost	0.79
DL + ML (FT)	RESNET 152	Extremely Trees	0.79
DL + ML (FT)	VGG 19 + RESNET 152	Gradient Boosting	0.79
HF + ML	LBP	SGD	0.79
HF + ML	LBP + LPQ	SGD	0.79
DL + ML (TL)	RESNET 152	Extremely Trees	0.78
DL + ML (FT)	VGG 19	Linear SVM	0.78
DL + ML (FT)	RESNET 152	Gradient Boosting	0.78
DL + ML (FT)	VGG 19 + RESNET 152	KNN	0.78
DL + ML (FT)	VGG 19 + RESNET 152 + IV3	Adaboost	0.78
HF + ML	LBP	Adaboost	0.78
HF + ML	LBP + LPQ	KNN	0.78
DL + ML (FT)	VGG 19	SGD	0.77
DL + ML (FT)	RESNET 152	Adaboost	0.77
DL + ML (FT)	VGG 19 + RESNET 152	SGD	0.77
HF + ML	LBP	KNN	0.77
HF + ML	LPQ	KNN	0.77
DL + ML (TL)	RESNET 152	SGD	0.76
DL + ML (FT)	VGG 19	Gradient Boosting	0.76

DL + ML (TL)	VGG 19 + RESNET 152	Decision Tree	0.7078
DL + ML (FT)	VGG 19	Gradient Boosting	0.7052
DL + ML (FT)	RESNET 152	Adaboost	0.7013
DL + ML (FT)	VGG 19 + RESNET 152	Decision Tree	0.7013
HF + ML	LBP + LPQ + GLCM	Decision Tree	0.7013
DL + ML (FT)	VGG 19	Linear SVM	0.7
DL + ML	VGG 19	Decision Tree	0.6986
DL + ML (FT)	VGG 19	KNN	0.696
DL + ML (TL)	RESNET 152	SGD	0.6947
HF + ML	Haralick	Linear SVM	0.6947
DL + ML	VGG 19	Naive Bayes	0.6934
DL + ML (FT)	VGG 19	Decision Tree	0.6934
DL + ML (FT)	VGG 19 + RESNET 152 + IV3	Decision Tree	0.6907
DL + ML (FT)	VGG 19 + RESNET 152 + IV3	Naive Bayes	0.6881
DL + ML (TL)	RESNET 152	KNN	0.6828
DL + ML (TL)	VGG 19 + RESNET 152 + IV3	Decision Tree	0.6789
HF + ML	LBP + LPQ	SGD	0.6789
DL + ML (TL)	RESNET 152	SVM	0.6736
DL + ML (FT)	VGG 19	SGD	0.6723
DL + ML (FT)	VGG 19	Naive Bayes	0.6684
HF + ML	LPQ	SVM	0.6684
HF + ML	LBP + LPQ	Naive Bayes	0.6684
HF + ML	LBP + LPQ + GLCM	Naive Bayes	0.6671
HF + ML	LPQ	Naive Bayes	0.6644
DL + ML (FT)	RESNET 152	SGD	0.6592
DL + ML (TL)	VGG 19 + RESNET 152	Naive Bayes	0.6578
DL + ML (TL)	IV3	Linear SVM	0.6565
DL + ML (TL)	IV3	SVM	0.6565
DL + ML (FT)	VGG 19	SVM	0.6565
DL + ML (FT)	RESNET 152	SVM	0.6565
DL + ML (FT)	IV3	SVM	0.6565
DL + ML (FT)	VGG 19 + RESNET 152	SVM	0.6565
DL + ML (FT)	VGG 19 + RESNET 152 + IV3	SVM	0.6565
HF + ML	HOG	SVM	0.6565
HF + ML	SIFT	Linear SVM	0.6565
HF + ML	SIFT	SVM	0.6565
DL + ML (TL)	VGG 19 + RESNET 152 + IV3	Naive Bayes	0.6552
HF + ML	LBP + LPQ + GLCM	KNN	0.6513
DL + ML (TL)	RESNET 152	Decision Tree	0.65
HF + ML	LBP + LPQ + GLCM	SGD	0.6486
DL + ML (FT)	VGG 19 + RESNET 152	Naive Bayes	0.6442
DL + ML (FT)	RESNET 152	Decision Tree	0.6434
HF + ML	Haralick	Random Forest	0.6407
HF + ML	Haralick	Extremely Trees	0.6368
DL + ML (FT)	RESNET 152	KNN	0.6355
HF + ML	Haralick	Adaboost	0.6355
HF + ML	Haralick	Gradient Boosting	0.6315
DL + ML (TL)	RESNET 152	Naive Bayes	0.6289
DL + ML (FT)	VGG 19 + RESNET 152 + IV3	KNN	0.621
DL + ML (FT)	RESNET 152	Naive Bayes	0.6171
HF + ML	SIFT	Extremely Trees	0.6144
HF + ML	SIFT	Decision Tree	0.6065
HF + ML	Haralick	KNN	0.5986
DL + ML (TL)	IV3	Adaboost	0.5934
HF + ML	HOG	Linear SVM	0.5921
HF + ML	SIFT	Gradient Boosting	0.5921
DL + ML (TL)	IV3	Gradient Boosting	0.5894
HF + ML	SIFT	KNN	0.5894
HF + ML	SIFT	Adaboost	0.5894
HF + ML	SIFT	Random Forest	0.5894
HF + ML	LPQ	SGD	0.5881
DL + ML (FT)	IV3	Naive Bayes	0.5842
DL + ML (TL)	IV3	Decision Tree	0.5815
DL + ML (TL)	IV3	Naive Bayes	0.5802
DL + ML (TL)	IV3	Random Forest	0.5776
HF + ML	Haralick	Decision Tree	0.5776
HF + ML	HOG	Adaboost	0.5763
HF + ML	Haralick	Naive Bayes	0.5763
DL + ML (TL)	IV3	Extremely Trees	0.571
HF + ML	Haralick	SGD	0.571
HF + ML	HOG	Gradient Boosting	0.5671
DL + ML (TL)	IV3	KNN	0.5526
DL + ML (FT)	IV3	KNN	0.5526
HF + ML	HOG	KNN	0.55
HF + ML	HOG	Extremely Trees	0.546
DL + ML (FT)	IV3	Decision Tree	0.5407
DL + ML (FT)	IV3	Random Forest	0.5394
HF + ML	HOG	Random Forest	0.5381
DL + ML (FT)	IV3	Adaboost	0.5368
HF + ML	HOG	Decision Tree	0.5355
DL + ML (FT)	IV3	Gradient Boosting	0.5315
DL + ML (FT)	IV3	Extremely Trees	0.5302

DL + ML	VGG 19	Naive Bayes	0.75
DL + ML (TL)	RESNET 152	Adaboost	0.75
DL + ML (TL)	RESNET 152	Gradient Boosting	0.75
DL + ML (TL)	VGG 19 + RESNET 152	SGD	0.75
DL + ML	VGG 19	KNN	0.74
DL + ML (TL)	VGG 19 + RESNET 152	KNN	0.74
DL + ML (TL)	VGG 19 + RESNET 152 + IV3	KNN	0.74
HF + ML	Haralick	SVM	0.74
HF + ML	LPQ	SVM	0.74
DL + ML (TL)	RESNET 152	SVM	0.73
DL + ML (FT)	VGG 19	KNN	0.73
HF + ML	Haralick	Linear SVM	0.73
HF + ML	LBP	Naive Bayes	0.73
DL + ML (TL)	RESNET 152	KNN	0.71
DL + ML (TL)	VGG 19 + RESNET 152	Naive Bayes	0.71
DL + ML (TL)	VGG 19 + RESNET 152 + IV3	Naive Bayes	0.71
DL + ML (FT)	RESNET 152	SGD	0.7
DL + ML (FT)	VGG 19	Decision Tree	0.69
DL + ML (FT)	VGG 19 + RESNET 152	Decision Tree	0.69
HF + ML	LBP	Decision Tree	0.69
HF + ML	LBP + LPQ + GLCM	SGD	0.69
DL + ML (TL)	VGG 19 + RESNET 152 + IV3	Decision Tree	0.68
DL + ML (FT)	VGG 19	SVM	0.68
DL + ML (FT)	VGG 19 + RESNET 152 + IV3	Decision Tree	0.68
HF + ML	LPQ	Decision Tree	0.68
HF + ML	LBP + LPQ + GLCM	Decision Tree	0.68
DL + ML	VGG 19	Decision Tree	0.67
DL + ML (TL)	RESNET 152	Naive Bayes	0.67
HF + ML	Haralick	Random Forest	0.67
HF + ML	LBP + LPQ	Decision Tree	0.67
HF + ML	Haralick	Gradient Boosting	0.66
HF + ML	LPQ	SGD	0.66
DL + ML (FT)	VGG 19 + RESNET 152	SVM	0.65
HF + ML	Haralick	Extremely Trees	0.65
DL + ML (TL)	VGG 19 + RESNET 152	Decision Tree	0.64
DL + ML (FT)	RESNET 152	KNN	0.64
HF + ML	Haralick	Adaboost	0.64
HF + ML	LBP + LPQ + GLCM	KNN	0.64
DL + ML (TL)	RESNET 152	Decision Tree	0.63
DL + ML (FT)	RESNET 152	Naive Bayes	0.61
DL + ML (FT)	RESNET 152	Decision Tree	0.61
DL + ML (FT)	RESNET 152	SVM	0.61
DL + ML (FT)	VGG 19 + RESNET 152 + IV3	KNN	0.6
HF + ML	Haralick	KNN	0.6
DL + ML (FT)	VGG 19 + RESNET 152 + IV3	SGD	0.59
HF + ML	SIFT	Extremely Trees	0.59
HF + ML	SIFT	Random Forest	0.58
DL + ML (TL)	IV3	Adaboost	0.57
HF + ML	SIFT	Decision Tree	0.57
HF + ML	SIFT	Adaboost	0.57
DL + ML (TL)	IV3	Gradient Boosting	0.56
DL + ML (TL)	IV3	Random Forest	0.56
HF + ML	SIFT	KNN	0.56
HF + ML	SIFT	Gradient Boosting	0.56
HF + ML	HOG	SGD	0.55
HF + ML	Haralick	SGD	0.55
HF + ML	Haralick	Decision Tree	0.55
HF + ML	HOG	Gradient Boosting	0.54
HF + ML	HOG	Extremely Trees	0.54
HF + ML	HOG	SVM	0.54
DL + ML (TL)	IV3	Decision Tree	0.53
DL + ML (TL)	IV3	Extremely Trees	0.53
DL + ML (FT)	IV3	SVM	0.53
HF + ML	HOG	KNN	0.53
HF + ML	HOG	Decision Tree	0.53
HF + ML	HOG	Adaboost	0.53
HF + ML	HOG	Random Forest	0.53
HF + ML	LPQ	Naive Bayes	0.53
HF + ML	LBP + LPQ	Naive Bayes	0.53
HF + ML	LBP + LPQ + GLCM	Naive Bayes	0.53
DL + ML (TL)	IV3	KNN	0.52
DL + ML (FT)	IV3	KNN	0.52
DL + ML (FT)	IV3	Random Forest	0.52
DL + ML (FT)	IV3	Extremely Trees	0.52
HF + ML	HOG	Linear SVM	0.52
HF + ML	Haralick	Naive Bayes	0.52
DL + ML (TL)	IV3	SVM	0.51
DL + ML (FT)	IV3	Decision Tree	0.51
HF + ML	SIFT	SGD	0.51
DL + ML (FT)	IV3	SGD	0.5
DL + ML (FT)	VGG 19 + RESNET 152 + IV3	SVM	0.5
HF + ML	SIFT	Naive Bayes	0.5

DL + ML (FT)	IV3	Linear SVM	0.5223
HF + ML	SIFT	Naive Bayes	0.5223
HF + ML	HOG	Naive Bayes	0.5157
HF + ML	LBP	Naive Bayes	0.4592
DL + ML (FT)	VGG 19 + RESNET 152	SGD	0.4368
HF + ML	HOG	SGD	0.4065
HF + ML	SIFT	SGD	0.4039
DL + ML (TL)	IV3	SGD	0.396
DL + ML (FT)	IV3	SGD	0.3842
HF + ML	LBP	SGD	0.3723

HF + ML	SIFT	Linear SVM	0.49
HF + ML	SIFT	SVM	0.49
DL + ML (FT)	IV3	Gradient Boosting	0.48
DL + ML (TL)	IV3	Linear SVM	0.47
DL + ML (FT)	IV3	Adaboost	0.47
DL + ML (TL)	IV3	Naive Bayes	0.46
DL + ML (FT)	IV3	Naive Bayes	0.46
DL + ML (TL)	IV3	SGD	0.45
DL + ML (FT)	IV3	Linear SVM	0.45
HF + ML	HOG	Naive Bayes	0.41