200X			
Model	Feature	Technique	Accuracy
DL	Xception	LSTM	0.8871
DL		ResNet 152	0.87283
DL + ML (TL)	VGG 19 + RESNET 152 + IV3	SVM	0.8682
DL + ML (TL)	VGG 19 + RESNET 152	SVM	0.8642
HF + ML	LBP + LPQ	Linear SVM	0.8629
HF + ML	LBP + LPQ + GLCM	SVM	0.8629
DL + ML	VGG 19	Extremely Trees	0.8601
HF + ML	LBP + LPQ + GLCM	Linear SVM	0.8575
HF + ML	LBP + LPQ	SVM	0.8548
DL + ML	VGG 19	Random Forest	0.8521
DL + ML	VGG 19	SVM	0.8427
DL + ML (TL)	VGG 19 + RESNET 152	Random Forest	0.8413
DL + ML (TL)	VGG 19 + RESNET 152	Extremely Trees	0.8373
DL + ML (TL)	VGG 19 + RESNET 152 + IV3	Gradient Boosting	0.836
DL + ML (TL)	VGG 19 + RESNET 152 + IV3	Random Forest	0.8333
DL + ML (TL)	VGG 19 + RESNET 152 + IV3	Extremely Trees	0.8293
HF + ML	LBP + LPQ + GLCM	Adaboost	0.8293
DL + ML (TL)	VGG 19 + RESNET 152	Gradient Boosting	0.8239
HF + ML	LBP + LPQ	Adaboost	0.8198
DL + ML (TL)	VGG 19 + RESNET 152	Linear SVM	0.8185
DL + ML (TL)	VGG 19 + RESNET 152 + IV3	Linear SVM	0.8185
HF + ML	LBP + LPQ	Gradient Boosting	0.8185
DL + ML	VGG 19	Linear SVM	0.8172
DL + ML (TL)	VGG 19 + RESNET 152	Adaboost	0.8172
DL + ML (FT)	RESNET 152	SVM	0.8172
HF + ML	LBP + LPQ + GLCM	Gradient Boosting	0.8158
DL + ML (FT)	VGG 19 + RESNET 152	Extremely Trees	0.8145
DL + ML (FT)	VGG 19 + RESNET 152 + IV3	Extremely Trees	0.8145
DL + ML (FT)	RESNET 152	Extremely Trees	0.8118
DL + ML (FT)	RESNET 152	Linear SVM	0.8118
DL + ML (FT)	VGG 19 + RESNET 152	Random Forest	0.8104
DL + ML (FT)	VGG 19 + RESNET 152 + IV3	Random Forest	0.8104
DL + ML (FT)	VGG 19 + RESNET 152 + IV3	Adaboost	0.8091
HF + ML	LBP	Linear SVM	0.8064
HF + ML	LBP	SVM	0.8064
DL + ML	VGG 19	Gradient Boosting	0.8037
DL + ML (TL)	VGG 19 + RESNET 152 + IV3	Adaboost	0.8037
DL + ML (FT)	RESNET 152	Random Forest	0.801
DL + ML (FT)	VGG 19 + RESNET 152	Gradient Boosting	0.7983
DL + ML (FT)	VGG 19 + RESNET 152 + IV3	Gradient Boosting	0.7956
DL + ML (FT)	VGG 19 + RESNET 152 + IV3	Linear SVM	0.793
DL + ML	VGG 19	Adaboost	0.7916
DL + ML (FT)	VGG 19 + RESNET 152	Adaboost	0.7916
DL + ML (FT)	VGG 19 + RESNET 152	Linear SVM	0.7916
HF + ML	LPQ	Linear SVM	0.7876
HF + ML	LBP + LPQ	Random Forest	0.7876
HF + ML	LBP + LPQ	KNN	0.7849
HF + ML	LBP + LPQ + GLCM	Random Forest	0.7849
DL + ML	VGG 19	SGD	0.7836
DL + ML	VGG 19	Naive Bayes	0.7836
DL + ML (FT)	VGG 19 + RESNET 152	KNN	0.7822
HF + ML	LBP	Random Forest	0.7795
HF + ML	LBP	Extremely Trees	0.7782
HF + ML	LBP + LPQ + GLCM	Extremely Trees	0.7768
DL + ML (TL)	VGG 19 + RESNET 152	Naive Bayes	0.7728
DL + ML (FT)	RESNET 152	KNN	0.7728
DL + ML (FT)	VGG 19 + RESNET 152	SGD	0.7715
DL + ML (TL)	RESNET 152	Linear SVM	0.77016
HF + ML	LBP + LPQ	Extremely Trees	0.7688
HF + ML	LPQ	Random Forest	0.7674
HF + ML	LPQ	Adaboost	0.7661
DL + ML (FT)	VGG 19	Random Forest	0.7634
HF + ML	LBP + LPQ + GLCM	Decision Tree	0.7634
HF + ML	LPQ	KNN	0.762
DL + ML (TL)	VGG 19 + RESNET 152 + IV3	Naive Bayes	0.7607
DL + ML (FT)	VGG 19	Extremely Trees	0.7594
DL + ML (FT)	VGG 19	Linear SVM	0.7594
DL + ML	VGG 19	KNN	0.754
DL + ML (TL)	VGG 19 + RESNET 152	KNN	0.754
DL + ML (TL)	VGG 19 + RESNET 152 + IV3	KNN	0.754
DL + ML (TL)	RESNET 152	Random Forest	0.7486
HF + ML	LPQ	Gradient Boosting	0.7486
HF + ML	LPQ	Extremely Trees	0.7486
HF + ML	LBP + LPQ	Decision Tree	0.7486
DL + ML (TL)	RESNET 152	Extremely Trees	0.7459
DL + ML (FT)	VGG 19	SGD	0.7459
DL + ML (FT)	RESNET 152	Gradient Boosting	0.7446
HF + ML	LBP	Gradient Boosting	0.7446
DL + ML (TL)	RESNET 152	Adaboost	0.7419
DL + ML (FT)	VGG 19 + RESNET 152 + IV3	Decision Tree	0.7405
DL + ML (TL)	RESNET 152	Gradient Boosting	0.7352

200X			
Model	Feature	Technique	AUC
DL		ResNet 152	1
DL	Xception	LSTM	0.97
DL + ML (TL)	VGG 19 + RESNET 152	SVM	0.93
DL + ML (TL)	VGG 19 + RESNET 152 + IV3	SVM	0.93
DL + ML	VGG 19	SVM	0.92
DL + ML	VGG 19	Random Forest	0.91
DL + ML	VGG 19	Extremely Trees	0.91
DL + ML (TL)	VGG 19 + RESNET 152	Random Forest	0.91
DL + ML (TL)	VGG 19 + RESNET 152	Extremely Trees	0.91
DL + ML (TL)	VGG 19 + RESNET 152 + IV3	Random Forest	0.91
DL + ML (TL)	VGG 19 + RESNET 152 + IV3	Extremely Trees	0.91
HF + ML	LBP + LPQ	Linear SVM	0.91
HF + ML	LBP + LPQ	SVM	0.91
HF + ML	LBP + LPQ + GLCM	Linear SVM	0.91
DL + ML	VGG 19	Linear SVM	0.9
DL + ML (TL)	VGG 19 + RESNET 152	Linear SVM	0.9
DL + ML (TL)	VGG 19 + RESNET 152 + IV3	Gradient Boosting	0.9
HF + ML	LBP + LPQ + GLCM	SVM	0.9
DL + ML (TL)	VGG 19 + RESNET 152	Gradient Boosting	0.89
DL + ML (TL)	VGG 19 + RESNET 152 + IV3	Adaboost	0.89
DL + ML (TL)	VGG 19 + RESNET 152 + IV3	Linear SVM	0.89
DL + ML (FT)	RESNET 152	Extremely Trees	0.89
HF + ML	LBP + LPQ	Adaboost	0.89
HF + ML	LBP + LPQ	Gradient Boosting	0.89
HF + ML	LBP + LPQ + GLCM	Adaboost	0.89
HF + ML	LBP + LPQ + GLCM	Gradient Boosting	0.89
DL + ML (TL)	VGG 19 + RESNET 152	Adaboost	0.88
DL + ML (FT)	RESNET 152	Random Forest	0.88
DL + ML (FT)	RESNET 152	Linear SVM	0.88
DL + ML (FT)	VGG 19 + RESNET 152 + IV3	Extremely Trees	0.88
DL + ML	VGG 19	Gradient Boosting	0.87
DL + ML (FT)	RESNET 152	SVM	0.87
DL + ML (FT)	VGG 19 + RESNET 152	Random Forest	0.87
DL + ML (FT)	VGG 19 + RESNET 152	Extremely Trees	0.87
DL + ML (FT)	VGG 19 + RESNET 152 + IV3	Random Forest	0.87
HF + ML	LBP	Extremely Trees	0.87
HF + ML	LBP	SVM	0.87
HF + ML	LBP + LPQ	Random Forest	0.87
HF + ML	LBP + LPQ + GLCM	Random Forest	0.87
DL + ML	VGG 19	Adaboost	0.86
DL + ML (FT)	VGG 19 + RESNET 152 + IV3	Adaboost	0.86
HF + ML	LBP	Random Forest	0.86
HF + ML	LBP	Linear SVM	0.86
DL + ML (TL)	VGG 19 + RESNET 152	SGD	0.85
DL + ML (FT)	VGG 19 + RESNET 152	Gradient Boosting	0.85
DL + ML (FT)	VGG 19 + RESNET 152	Linear SVM	0.85
DL + ML (FT)	VGG 19 + RESNET 152 + IV3	Gradient Boosting	0.85
HF + ML	LPQ	Random Forest	0.85
HF + ML	LBP + LPQ	Extremely Trees	0.85
HF + ML	LBP + LPQ + GLCM	Extremely Trees	0.85
DL + ML	VGG 19	SGD	0.84
DL + ML	VGG 19	Naive Bayes	0.84
DL + ML (FT)	VGG 19 + RESNET 152	Adaboost	0.84
HF + ML	LPQ	Extremely Trees	0.84
HF + ML	LPQ	Linear SVM	0.84
DL + ML (TL)	RESNET 152	Random Forest	0.83
DL + ML (TL)	RESNET 152	Linear SVM	0.83
DL + ML (FT)	VGG 19 + RESNET 152 + IV3	Linear SVM	0.83
DL + ML (TL)	RESNET 152	Extremely Trees	0.82
HF + ML	LBP	Gradient Boosting	0.82
HF + ML	LPQ	Adaboost	0.82
HF + ML	LBP + LPQ	KNN	0.82
DL + ML (TL)	VGG 19 + RESNET 152	Naive Bayes	0.81
DL + ML (TL)	VGG 19 + RESNET 152 + IV3	SGD	0.81
DL + ML (FT)	RESNET 152	KNN	0.81
DL + ML (FT)	RESNET 152	Adaboost	0.81
DL + ML (FT)	RESNET 152	Gradient Boosting	0.81
HF + ML	LBP	Adaboost	0.81
HF + ML	LPQ	Gradient Boosting	0.81
DL + ML (TL)	RESNET 152	SGD	0.8
DL + ML (TL)	RESNET 152	Adaboost	0.8
DL + ML (TL)	RESNET 152	Gradient Boosting	0.8
DL + ML (TL)	VGG 19 + RESNET 152 + IV3	Naive Bayes	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 + RESNET 152	KNN	0.79
HF + ML	LBP	KNN	0.78
HF + ML	LPQ	KNN	0.78
DL + ML (FT)	RESNET 152	SGD	0.77
HF + ML	LBP + LPQ	SGD	0.77

DL + ML (TL)	VGG 19 + RESNET 152 + IV3	Decision Tree	0.7352
DL + ML (TL)	VGG 19 + RESNET 152	SGD	0.7338
HF + ML	LBP	KNN	0.7338
DL + ML (FT)	VGG 19 + RESNET 152	Decision Tree	0.7325
DL + ML (TL)	VGG 19 + RESNET 152	Decision Tree	0.7284
DL + ML (FT)	VGG 19	Gradient Boosting	0.7271
DL + ML (FT)	VGG 19	Adaboost	0.7258
DL + ML (FT)	RESNET 152	Adaboost	0.7258
DL + ML (FT)	VGG 19 + RESNET 152 + IV3	KNN	0.7258
HF + ML	LBP	Adaboost	0.7231
DL + ML (TL)	VGG 19 + RESNET 152 + IV3	SGD	0.7204
HF + ML	LPQ	Decision Tree	0.7177
DL + ML (FT)	RESNET 152	Naive Bayes	0.7163
HF + ML	LBP + LPQ + GLCM	SGD	0.7123
DL + ML (FT)	VGG 19 + RESNET 152 + IV3	Naive Bayes	0.7083
HF + ML	Haralick	Linear SVM	0.7083
HF + ML	LBP	Decision Tree	0.7069
DL + ML (TL)	RESNET 152	KNN	0.7016
DL + ML (FT)	VGG 19 + RESNET 152	Naive Bayes	0.7016
DL + ML (FT)	VGG 19	KNN	0.6962
HF + ML	Haralick	SVM	0.6962
HF + ML	LPQ	SVM	0.6854
DL + ML (TL)	RESNET 152	Decision Tree	0.6774
DL + ML (TL)	RESNET 152	SGD	0.6747
DL + ML (FT)	VGG 19	Decision Tree	0.6747
DL + ML (FT)	RESNET 152	Decision Tree	0.672
DL + ML (FT)	VGG 19	Naive Bayes	0.668
DL + ML (TL)	RESNET 152	Naive Bayes	0.6653
HF + ML	LBP + LPQ + GLCM	Naive Bayes	0.6639
DL + ML	VGG 19	Decision Tree	0.6612
HF + ML	LBP + LPQ	Naive Bayes	0.6586
DL + ML (TL)	RESNET 152	SVM	0.6572
DL + ML (TL)	IV3	Linear SVM	0.6572
DL + ML (TL)	IV3	SVM	0.6572
DL + ML (FT)	VGG 19	SVM	0.6572
DL + ML (FT)	IV3	SVM	0.6572
DL + ML (FT)	VGG 19 + RESNET 152	SVM	0.6572
DL + ML (FT)	VGG 19 + RESNET 152 + IV3	SVM	0.6572
HF + ML	HOG	SVM	0.6572
HF + ML	SIFT	Linear SVM	0.6572
HF + ML	SIFT	SVM	0.6572
DL + ML (TL)	IV3	SGD	0.6545
HF + ML	Haralick	Gradient Boosting	0.6532
HF + ML	Haralick	Adaboost	0.6518
DL + ML (FT)	IV3	SGD	0.6505
HF + ML	LPQ	Naive Bayes	0.6465
HF + ML	LBP + LPQ + GLCM	KNN	0.6451
HF + ML	Haralick	Random Forest	0.6411
DL + ML (FT)	RESNET 152	SGD	0.6344
HF + ML	Haralick	SGD	0.6344
DL + ML (FT)	VGG 19 + RESNET 152 + IV3	SGD	0.633
HF + ML	Haralick	Extremely Trees	0.6303
HF + ML	Haralick	KNN	0.6102
HF + ML	SIFT	Random Forest	0.6088
HF + ML	Haralick	Decision Tree	0.6061
HF + ML	SIFT	Gradient Boosting	0.6048
HF + ML	SIFT	Decision Tree	0.6021
HF + ML	SIFT	Extremely Trees	0.6008
HF + ML	SIFT	Adaboost	0.5954
HF + ML	HOG	Linear SVM	0.594
HF + ML	SIFT	KNN	0.5913
HF + ML	HOG	Extremely Trees	0.59
DL + ML (FT)	IV3	Random Forest	0.5833
HF + ML	Haralick	Naive Bayes	0.5833
DL + ML (FT)	IV3	Extremely Trees	0.5712
HF + ML	HOG	Gradient Boosting	0.5712
HF + ML	HOG	Random Forest	0.5712
DL + ML (FT)	IV3	Adaboost	0.5672
DL + ML (TL)	IV3	Adaboost	0.5618
HF + ML	HOG	Naive Bayes	0.5577
DL + ML (FT)	IV3	Decision Tree	0.5564
HF + ML	HOG	Adaboost	0.5564
DL + ML (TL)	IV3	Gradient Boosting	0.5537
DL + ML (FT)	IV3	Gradient Boosting	0.5524
DL + ML (TL)	IV3	Naive Bayes	0.5376
DL + ML (FT)	IV3	KNN	0.5376
DL + ML (TL)	IV3	Random Forest	0.5336
DL + ML (FT)	IV3	Linear SVM	0.5322
DL + ML (TL)	IV3	Extremely Trees	0.5309
HF + ML	HOG	SGD	0.5295
DL + ML (TL)	IV3	Decision Tree	0.5268
DL + ML (TL)	IV3	KNN	0.5188
HF + ML	HOG	Decision Tree	0.5188

DL + ML (FT)	VGG 19	Random Forest	0.7634
HF + ML	Haralick	Linear SVM	0.76
DL + ML (FT)	VGG 19	Extremely Trees	0.7594
DL + ML (FT)	VGG 19	Linear SVM	0.7594
DL + ML (TL)	RESNET 152	SVM	0.75
HF + ML	Haralick	SVM	0.75
HF + ML	LPQ	SVM	0.75
HF + ML	LBP + LPQ + GLCM	SGD	0.75
DL + ML (FT)	VGG 19	SGD	0.7459
DL + ML (TL)	RESNET 152	KNN	0.74
DL + ML (FT)	VGG 19 + RESNET 152 + IV3	KNN	0.74
DL + ML (FT)	VGG 19 + RESNET 152 + IV3	Decision Tree	0.74
HF + ML	LBP	Naive Bayes	0.74
DL + ML (TL)	VGG 19 + RESNET 152 + IV3	Decision Tree	0.73
HF + ML	LBP	SGD	0.73
HF + ML	LBP + LPQ	Decision Tree	0.73
HF + ML	LBP + LPQ + GLCM	Decision Tree	0.73
DL + ML (FT)	VGG 19	Gradient Boosting	0.7271
DL + ML (FT)	VGG 19	Adaboost	0.7258
DL + ML (TL)	RESNET 152	Naive Bayes	0.72
DL + ML (TL)	VGG 19 + RESNET 152	Decision Tree	0.72
HF + ML	LPQ	SGD	0.72
DL + ML (FT)	VGG 19 + RESNET 152	Decision Tree	0.71
HF + ML	Haralick	Naive Bayes	0.7
HF + ML	Haralick	Adaboost	0.7
HF + ML	Haralick	Gradient Boosting	0.7
HF + ML	Haralick	Random Forest	0.7
HF + ML	Haralick	Extremely Trees	0.7
HF + ML	LBP	Decision Tree	0.7
DL + ML (FT)	VGG 19	KNN	0.6962
HF + ML	LPQ	Decision Tree	0.69
HF + ML	Haralick	SGD	0.68
DL + ML (FT)	VGG 19	Decision Tree	0.6747
DL + ML (FT)	RESNET 152	Naive Bayes	0.67
DL + ML (FT)	RESNET 152	Decision Tree	0.67
DL + ML (FT)	VGG 19	Naive Bayes	0.668
HF + ML	LBP + LPQ + GLCM	KNN	0.66
DL + ML (FT)	VGG 19	SVM	0.6572
DL + ML	VGG 19	Decision Tree	0.65
DL + ML (TL)	RESNET 152	Decision Tree	0.65
HF + ML	Haralick	KNN	0.64
DL + ML (FT)	VGG 19 + RESNET 152	SGD	0.61
HF + ML	SIFT	Gradient Boosting	0.61
HF + ML	SIFT	Extremely Trees	0.61
HF + ML	Haralick	Decision Tree	0.61
DL + ML (FT)	VGG 19 + RESNET 152 + IV3	Naive Bayes	0.6
HF + ML	HOG	KNN	0.6
DL + ML (FT)	VGG 19 + RESNET 152	Naive Bayes	0.59
HF + ML	SIFT	Adaboost	0.59
HF + ML	SIFT	Random Forest	0.59
DL + ML (FT)	IV3	Random Forest	0.58
DL + ML (FT)	IV3	Extremely Trees	0.58
HF + ML	HOG	SGD	0.58
HF + ML	HOG	Gradient Boosting	0.58
HF + ML	SIFT	KNN	0.58
HF + ML	LBP + LPQ + GLCM	Naive Bayes	0.58
DL + ML (TL)	IV3	Naive Bayes	0.57
DL + ML (TL)	IV3	Adaboost	0.57
DL + ML (TL)	IV3	Linear SVM	0.57
DL + ML (TL)	IV3	SVM	0.57
DL + ML (FT)	IV3	Adaboost	0.57
DL + ML (FT)	IV3	Gradient Boosting	0.56
HF + ML	HOG	Adaboost	0.56
HF + ML	HOG	Random Forest	0.56
HF + ML	HOG	Extremely Trees	0.56
HF + ML	HOG	Linear SVM	0.56
HF + ML	LBP + LPQ	Naive Bayes	0.56
DL + ML (TL)	IV3	SGD	0.55
DL + ML (TL)	IV3	Random Forest	0.55
DL + ML (TL)	IV3	Extremely Trees	0.55
DL + ML (FT)	IV3	KNN	0.54
HF + ML	SIFT	SGD	0.54
DL + ML (TL)	IV3	Decision Tree	0.53
DL + ML (TL)	IV3	Gradient Boosting	0.53
DL + ML (FT)	IV3	SVM	0.53
DL + ML (FT)	VGG 19 + RESNET 152	SVM	0.53
DL + ML (FT)	VGG 19 + RESNET 152 + IV3	SGD	0.53
HF + ML	HOG	Naive Bayes	0.53
HF + ML	HOG	SVM	0.53
HF + ML	SIFT	Decision Tree	0.53
HF + ML	LPQ	Naive Bayes	0.53
DL + ML (TL)	IV3	KNN	0.52
DL + ML (FT)	IV3	Decision Tree	0.52

HF + ML	SIFT	Naive Bayes	0.5174
HF + ML	LBP	Naive Bayes	0.5147
HF + ML	SIFT	SGD	0.4663
DL + ML (FT)	IV3	Naive Bayes	0.4462
HF + ML	LBP	SGD	0.422
HF + ML	HOG	KNN	0.4045
HF + ML	LBP + LPQ	SGD	0.3803
HF + ML	LPQ	SGD	0.36

DL + ML (FT)	IV3	Linear SVM	0.51
HF + ML	HOG	Decision Tree	0.51
HF + ML	SIFT	Naive Bayes	0.51
HF + ML	SIFT	Linear SVM	0.51
HF + ML	SIFT	SVM	0.51
DL + ML (FT)	IV3	SGD	0.5
DL + ML (FT)	VGG 19 + RESNET 152 + IV3	SVM	0.47
DL + ML (FT)	IV3	Naive Bayes	0.39