Model	40X 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 HF + ML	LPQ	Random Forest	0.8053
	LBP	Random Forest	0.8013
HF + ML	LPQ	Extremely Trees	0.8
DL + ML (TL) DL + ML (FT)		Random Forest Random Forest	0.7986
			0.7986
DL + ML (FT)	VGG 19 + RESNET 152	Extremely Trees	0.7973
HF + ML	VGG 19 + RESNET 152 + IV3	SVM Linear SVM	0.7973 0.7946
DL + ML (TL) DL + ML (TL)		Linear SVM	0.7946
DL + ML (TL) DL + ML (TL)	VGG 19 VGG 19 + RESNET 152	Linear SVM	
DL + ML (TL) DL + ML (TL)	VGG 19 + RESNET 152 VGG 19 + RESNET 152	Random Forest	0.7932 0.7919
DL + ML (TL) DL + ML (TL)	VGG 19 + RESNET 152 VGG 19 + RESNET 152	Extremely Trees	0.7919
HF + ML	LBP	Linear SVM	0.7892
HF + ML	LPQ	Adaboost	0.7892
DL + ML (FT)	· ·	Extremely Trees	0.7879
HF + ML	LBP + LPQ	Decision Tree	0.7879
HF + ML	LBP	Gradient Boosting	0.7879
DL + ML (TL)	VGG 19	SGD	0.7803
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	0.7823
HF + ML	LPQ	Gradient Boosting	0.7812
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	0.7718
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
			0.7181
HF + ML	LBP	Decision Tree	0.7101

	40X		
Model	Feature	Technique	AUC
DL DL	Xception	ResNet 152 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 Random Forest	0.89
HF + ML	LBP + LPQ 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 VGG 19 + RESNET 152 + IV3	Linear SVM Linear SVM	0.86
DL + ML (TL)	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) DL + ML (FT)	VGG 19 VGG 19	Random Forest Extremely Trees	0.83
DL + ML (FT)	VGG 19 + RESNET 152	Gradient Boosting	0.83
DL + ML	VGG 19 · KESKET 152	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) DL + ML (TL)	RESNET 152 VGG 19 + RESNET 152 + IV3	Linear SVM SGD	0.8
DL + ML (TL) DL + ML (FT)	VGG 19 + RESNET 152 + IV3	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)		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 Pandom Forest	0.77
DL + ML (TL)	RESNET 152	Random Forest	0.76 0.76
DL + ML (TL) HF + ML	RESNET 152 LBP + LPQ	Extremely Trees KNN	0.76
IVIL	SIFT	Extremely Trees	0.75
HF + MI		SVM	0.75
HF + ML HF + ML	SIFT	3 V IVI	
HF + ML HF + ML	SIFT LPQ	SVM	0.75
HF + ML			
HF + ML HF + ML	LPQ	SVM	0.75
HF + ML HF + ML DL + ML (TL)	LPQ VGG 19 + RESNET 152	SVM Naive Bayes	0.75 0.74

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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
		SVM	
HF + ML	LPQ	<u> </u>	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)		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		0.6322
		Naive Bayes	
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	ноб	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	ноб	KNN	0.5597
DL + ML (TL)	IV3	Extremely Trees	0.5516
		<u> </u>	
HF + ML	HOG	Extremely Trees	0.5503
DL + ML (TL)	IV3	Decision Tree	0.5476
DI . DAI /ET\	IV3	Extremely Trees	0.5476
DL + ML (FT)	HOG	Random Forest	0.5422
HF + ML		SGD	0.5395
	LBP + LPQ + GLCM	1000	
HF + ML HF + ML	·		0.5335
HF + ML HF + ML DL + ML (FT)	IV3	Random Forest	0.5335 0.5328
HF + ML HF + ML DL + ML (FT) DL + ML (TL)	IV3 IV3	Random Forest Naive Bayes	0.5328
HF + ML HF + ML DL + ML (FT) DL + ML (TL) HF + ML	IV3 IV3 HOG	Random Forest Naive Bayes Gradient Boosting	0.5328 0.5315
HF + ML HF + ML DL + ML (FT) DL + ML (TL)	IV3 IV3	Random Forest Naive Bayes	0.5328

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
	·	KNN	
DL + ML (TL)	RESNET 152	1	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
	VGG 19 + RESNET 152 + IV3	Decision Tree	0.68
			1
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
	Haralick LBP + LPQ + GLCM	Adaboost SGD	0.62 0.61
HF + ML			<u> </u>
HF + ML HF + ML	LBP + LPQ + GLCM	SGD	0.61
HF + ML HF + ML HF + ML	LBP + LPQ + GLCM SIFT	SGD Decision Tree	0.61 0.6
HF + ML HF + ML HF + ML DL + ML (TL)	LBP + LPQ + GLCM SIFT RESNET 152	SGD Decision Tree Decision Tree	0.61 0.6 0.59
HF + ML HF + ML DL + ML (TL) DL + ML (FT)	LBP + LPQ + GLCM SIFT RESNET 152 RESNET 152	SGD Decision Tree Decision Tree Naive Bayes	0.61 0.6 0.59 0.58
HF + ML HF + ML DL + ML (TL) DL + ML (FT) DL + ML (FT)	LBP + LPQ + GLCM SIFT RESNET 152 RESNET 152 RESNET 152	SGD Decision Tree Decision Tree Naive Bayes Decision Tree	0.61 0.6 0.59 0.58 0.57
HF + ML HF + ML DL + ML (TL) DL + ML (FT) DL + ML (FT) HF + ML	LBP + LPQ + GLCM SIFT RESNET 152 RESNET 152 RESNET 152 Haralick	SGD Decision Tree Decision Tree Naive Bayes Decision Tree Decision Tree	0.61 0.6 0.59 0.58 0.57 0.57
HF + ML HF + ML DL + ML (TL) DL + ML (FT) DL + ML (FT) HF + ML HF + ML	LBP + LPQ + GLCM SIFT RESNET 152 RESNET 152 RESNET 152 Haralick LPQ	SGD Decision Tree Decision Tree Naive Bayes Decision Tree Decision Tree Naive Bayes	0.61 0.6 0.59 0.58 0.57 0.57 0.56
HF + ML HF + ML DL + ML (TL) DL + ML (FT) DL + ML (FT) HF + ML HF + ML	LBP + LPQ + GLCM SIFT RESNET 152 RESNET 152 RESNET 152 Haralick LPQ LBP + LPQ + GLCM	SGD Decision Tree Decision Tree Naive Bayes Decision Tree Decision Tree Naive Bayes Naive Bayes	0.61 0.6 0.59 0.58 0.57 0.57 0.56 0.56
HF + ML HF + ML DL + ML (TL) DL + ML (FT) DL + ML (FT) HF + ML HF + ML HF + ML	LBP + LPQ + GLCM SIFT RESNET 152 RESNET 152 RESNET 152 Haralick LPQ LBP + LPQ + GLCM LBP + LPQ	SGD Decision Tree Decision Tree Naive Bayes Decision Tree Decision Tree Naive Bayes Naive Bayes Naive Bayes	0.61 0.6 0.59 0.58 0.57 0.57 0.56 0.56 0.55
HF + ML HF + ML DL + ML (TL) DL + ML (FT) DL + ML (FT) HF + ML HF + ML HF + ML HF + ML	LBP + LPQ + GLCM SIFT RESNET 152 RESNET 152 RESNET 152 Haralick LPQ LBP + LPQ + GLCM LBP + LPQ Haralick	SGD Decision Tree Decision Tree Naive Bayes Decision Tree Decision Tree Naive Bayes Naive Bayes Naive Bayes Naive Bayes	0.61 0.6 0.59 0.58 0.57 0.57 0.56 0.56 0.55 0.54
HF + ML HF + ML DL + ML (TL) DL + ML (FT) DL + ML (FT) HF + ML	LBP + LPQ + GLCM SIFT RESNET 152 RESNET 152 RESNET 152 Haralick LPQ LBP + LPQ + GLCM LBP + LPQ Haralick IV3	SGD Decision Tree Decision Tree Naive Bayes Decision Tree Decision Tree Naive Bayes Naive Bayes Naive Bayes Naive Bayes Extremely Trees	0.61 0.6 0.59 0.58 0.57 0.57 0.56 0.56 0.55 0.54 0.53
HF + ML HF + ML DL + ML (TL) DL + ML (FT) DL + ML (FT) HF + ML HF + ML HF + ML HF + ML DL + ML (TL) DL + ML (TL)	LBP + LPQ + GLCM SIFT RESNET 152 RESNET 152 RESNET 152 Haralick LPQ LBP + LPQ + GLCM LBP + LPQ Haralick IV3 VGG 19 + RESNET 152 + IV3	SGD Decision Tree Decision Tree Naive Bayes Decision Tree Decision Tree Naive Bayes Naive Bayes Naive Bayes Naive Bayes Saive Bayes Naive Bayes Extremely Trees SVM	0.61 0.6 0.59 0.58 0.57 0.57 0.56 0.56 0.55 0.54 0.53
HF + ML HF + ML DL + ML (TL) DL + ML (FT) DL + ML (FT) HF + ML HF + ML HF + ML HF + ML DL + ML (TL)	LBP + LPQ + GLCM SIFT RESNET 152 RESNET 152 RESNET 152 Haralick LPQ LBP + LPQ + GLCM LBP + LPQ Haralick IV3 VGG 19 + RESNET 152 + IV3 IV3	SGD Decision Tree Decision Tree Naive Bayes Decision Tree Decision Tree Naive Bayes Naive Bayes Naive Bayes Naive Bayes Stremely Trees SVM Decision Tree Random Forest	0.61 0.6 0.59 0.58 0.57 0.57 0.56 0.56 0.55 0.54 0.53 0.53 0.52
HF + ML HF + ML DL + ML (TL) DL + ML (FT) DL + ML (FT) HF + ML HF + ML HF + ML HF + ML DL + ML (TL)	LBP + LPQ + GLCM SIFT RESNET 152 RESNET 152 RESNET 152 Haralick LPQ LBP + LPQ + GLCM LBP + LPQ Haralick IV3 VGG 19 + RESNET 152 + IV3 IV3	SGD Decision Tree Decision Tree Naive Bayes Decision Tree Decision Tree Decision Tree Naive Bayes Naive Bayes Naive Bayes Naive Bayes Saive Bayes Extremely Trees SVM Decision Tree	0.61 0.6 0.59 0.58 0.57 0.57 0.56 0.56 0.55 0.54 0.53 0.53 0.52 0.52
HF + ML HF + ML DL + ML (TL) DL + ML (FT) DL + ML (FT) HF + ML HF + ML HF + ML HF + ML DL + ML (FT) DL + ML (TL) HF + ML	LBP + LPQ + GLCM SIFT RESNET 152 RESNET 152 RESNET 152 Haralick LPQ LBP + LPQ + GLCM LBP + LPQ Haralick IV3 VGG 19 + RESNET 152 + IV3 IV3 IV3 IV3	SGD Decision Tree Decision Tree Naive Bayes Decision Tree Decision Tree Naive Bayes Naive Bayes Naive Bayes Naive Bayes Saive Bayes Extremely Trees SVM Decision Tree Random Forest Extremely Trees	0.61 0.6 0.59 0.58 0.57 0.57 0.56 0.56 0.55 0.54 0.53 0.53 0.52 0.52 0.52
HF + ML HF + ML DL + ML (TL) DL + ML (FT) DL + ML (FT) HF + ML HF + ML HF + ML HF + ML DL + ML (TL) DL + ML (FT) HF + ML	LBP + LPQ + GLCM SIFT RESNET 152 RESNET 152 RESNET 152 Haralick LPQ LBP + LPQ + GLCM LBP + LPQ Haralick IV3 VGG 19 + RESNET 152 + IV3 IV3 IV3 IV3 HOG	SGD Decision Tree Decision Tree Naive Bayes Decision Tree Decision Tree Decision Tree Naive Bayes Naive Bayes Naive Bayes Saive Bayes Extremely Trees SVM Decision Tree Random Forest Extremely Trees Adaboost	0.61 0.6 0.59 0.58 0.57 0.57 0.56 0.56 0.55 0.54 0.53 0.53 0.52 0.52 0.52 0.52 0.52
HF + ML HF + ML DL + ML (TL) DL + ML (FT) DL + ML (FT) HF + ML HF + ML HF + ML HF + ML DL + ML (FT) DL + ML (TL) HF + ML	LBP + LPQ + GLCM SIFT RESNET 152 RESNET 152 RESNET 152 Haralick LPQ LBP + LPQ + GLCM LBP + LPQ Haralick IV3 VGG 19 + RESNET 152 + IV3 IV3 IV3 IV3 HOG IV3 HOG	SGD Decision Tree Decision Tree Naive Bayes Decision Tree Decision Tree Decision Tree Naive Bayes Naive Bayes Naive Bayes Saive Bayes Extremely Trees SVM Decision Tree Random Forest Extremely Trees Adaboost Random Forest Random Forest	0.61 0.6 0.59 0.58 0.57 0.57 0.56 0.56 0.55 0.54 0.53 0.53 0.52 0.52 0.52 0.52 0.51
HF + ML HF + ML HF + ML DL + ML (TL) DL + ML (FT) DL + ML (FT) HF + ML HF + ML HF + ML DL + ML (FT) DL + ML (TL) DL + ML (FT) DL + ML (FT) DL + ML (FT) HF + ML HF + ML HF + ML HF + ML HF + ML HF + ML HF + ML HF + ML	LBP + LPQ + GLCM SIFT RESNET 152 RESNET 152 RESNET 152 Haralick LPQ LBP + LPQ + GLCM LBP + LPQ Haralick IV3 VGG 19 + RESNET 152 + IV3 IV3 IV3 IV3 HOG HOG	SGD Decision Tree Decision Tree Naive Bayes Decision Tree Decision Tree Decision Tree Naive Bayes Naive Bayes Naive Bayes Saive Bayes Extremely Trees SVM Decision Tree Random Forest Extremely Trees Adaboost Random Forest Extremely Trees	0.61 0.6 0.59 0.58 0.57 0.57 0.56 0.56 0.55 0.54 0.53 0.53 0.52 0.52 0.52 0.52 0.52 0.51 0.51
HF + ML HF + ML HF + ML DL + ML (TL) DL + ML (FT) HF + ML HF + ML HF + ML DL + ML (TL) DL + ML (TL) DL + ML TDL DL + ML TDL DL + ML TDL HF + ML	LBP + LPQ + GLCM SIFT RESNET 152 RESNET 152 RESNET 152 Haralick LPQ LBP + LPQ + GLCM LBP + LPQ Haralick IV3 VGG 19 + RESNET 152 + IV3 IV3 IV3 IV3 IV3 HOG HOG HOG	SGD Decision Tree Decision Tree Naive Bayes Decision Tree Decision Tree Decision Tree Naive Bayes Naive Bayes Naive Bayes Naive Bayes Extremely Trees SVM Decision Tree Random Forest Extremely Trees Adaboost Random Forest Extremely Trees Linear SVM	0.61 0.6 0.59 0.58 0.57 0.57 0.56 0.56 0.55 0.54 0.53 0.53 0.52 0.52 0.52 0.52 0.51 0.51
HF + ML HF + ML HF + ML DL + ML (TL) DL + ML (FT) HF + ML HF + ML HF + ML HF + ML DL + ML (TL) DL + ML (FT) HF + ML HF + ML HF + ML DL + ML (FT) HF + ML HF + ML HF + ML	LBP + LPQ + GLCM SIFT RESNET 152 RESNET 152 RESNET 152 Haralick LPQ LBP + LPQ + GLCM LBP + LPQ Haralick IV3 VGG 19 + RESNET 152 + IV3 IV3 IV3 IV3 IV3 HOG IV3 HOG HOG HOG	SGD Decision Tree Decision Tree Naive Bayes Decision Tree Decision Tree Decision Tree Naive Bayes Naive Bayes Naive Bayes Naive Bayes Extremely Trees SVM Decision Tree Random Forest Extremely Trees Adaboost Random Forest Extremely Trees Linear SVM KNN	0.61 0.6 0.59 0.58 0.57 0.57 0.56 0.56 0.55 0.54 0.53 0.52 0.52 0.52 0.52 0.51 0.51 0.51 0.51
HF + ML HF + ML HF + ML DL + ML (TL) DL + ML (FT) HF + ML HF + ML HF + ML HF + ML DL + ML (FT) HF + ML DL + ML (TL)	LBP + LPQ + GLCM SIFT RESNET 152 RESNET 152 RESNET 152 Haralick LPQ LBP + LPQ + GLCM LBP + LPQ Haralick IV3 VGG 19 + RESNET 152 + IV3 IV3 IV3 IV3 HOG IV3 HOG HOG HOG IV3 IV3	SGD Decision Tree Decision Tree Naive Bayes Decision Tree Decision Tree Naive Bayes Naive Bayes Naive Bayes Naive Bayes Extremely Trees SVM Decision Tree Random Forest Extremely Trees Adaboost Random Forest Extremely Trees Linear SVM KNN SVM	0.61 0.6 0.59 0.58 0.57 0.57 0.56 0.56 0.55 0.54 0.53 0.53 0.52 0.52 0.52 0.52 0.52 0.51 0.51 0.51 0.55
HF + ML HF + ML HF + ML DL + ML (TL) DL + ML (FT) DL + ML (FT) HF + ML HF + ML HF + ML DL + ML (TL) HF + ML DL + ML (TL) DL + ML (TL) DL + ML (TL) DL + ML (TT) HF + ML DL + ML (TT) HF + ML DL + ML (TT) HF + ML DL + ML (TL) DL + ML (TL) DL + ML (TL)	LBP + LPQ + GLCM SIFT RESNET 152 RESNET 152 RESNET 152 Haralick LPQ LBP + LPQ + GLCM LBP + LPQ Haralick IV3 VGG 19 + RESNET 152 + IV3 IV3 IV3 IV3 IV3 HOG HOG HOG IV3 RESNET 152	SGD Decision Tree Decision Tree Naive Bayes Decision Tree Decision Tree Decision Tree Naive Bayes Naive Bayes Naive Bayes Naive Bayes Extremely Trees SVM Decision Tree Random Forest Extremely Trees Adaboost Random Forest Extremely Trees Linear SVM KNN SVM SGD	0.61 0.6 0.59 0.58 0.57 0.57 0.56 0.56 0.55 0.54 0.53 0.52 0.52 0.52 0.52 0.52 0.51 0.51 0.51 0.51 0.55 0.5 0.5 0.5
HF + ML HF + ML HF + ML DL + ML (TL) DL + ML (FT) DL + ML (FT) HF + ML HF + ML HF + ML HF + ML DL + ML (TL) DL + ML (TL) DL + ML (TL) DL + ML (TL) DL + ML (FT) HF + ML HF + ML DL + ML (FT) HF + ML DL + ML (FT) HF + ML DL + ML (FT) HF + ML HF + ML HF + ML DL + ML (TL) DL + ML (FT)	LBP + LPQ + GLCM SIFT RESNET 152 RESNET 152 RESNET 152 Haralick LPQ LBP + LPQ + GLCM LBP + LPQ Haralick IV3 VGG 19 + RESNET 152 + IV3 IV3 IV3 IV3 IV3 HOG IV3 HOG HOG HOG IV3 IV3 RESNET 152	SGD Decision Tree Decision Tree Naive Bayes Decision Tree Decision Tree Decision Tree Naive Bayes Naive Bayes Naive Bayes Naive Bayes Extremely Trees SVM Decision Tree Random Forest Extremely Trees Adaboost Random Forest Extremely Trees Linear SVM KNN SVM SGD KNN	0.61 0.6 0.59 0.58 0.57 0.57 0.56 0.56 0.55 0.54 0.53 0.52 0.52 0.52 0.52 0.51 0.51 0.51 0.51 0.51 0.55 0.5 0.5 0.5 0.5
HF + ML HF + ML HF + ML DL + ML (TL) DL + ML (FT) HF + ML DL + ML (FT) DL + ML (FT) DL + ML (FT) DL + ML (FT) HF + ML DL + ML (FT) DL + ML (FT) HF + ML DL + ML (FT)	LBP + LPQ + GLCM SIFT RESNET 152 RESNET 152 RESNET 152 Haralick LPQ LBP + LPQ + GLCM LBP + LPQ Haralick IV3 VGG 19 + RESNET 152 + IV3 IV3 IV3 IV3 HOG IV3 HOG HOG HOG IV3 RESNET 152 IV3 RESNET 152 IV3 RESNET 152 IV3	SGD Decision Tree Decision Tree Naive Bayes Decision Tree Decision Tree Decision Tree Naive Bayes Naive Bayes Naive Bayes Naive Bayes Extremely Trees SVM Decision Tree Random Forest Extremely Trees Adaboost Random Forest Extremely Trees Linear SVM KNN SVM SGD KNN SVM	0.61 0.6 0.59 0.58 0.57 0.57 0.56 0.56 0.55 0.54 0.53 0.52 0.52 0.52 0.52 0.51 0.51 0.51 0.51 0.51 0.55 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.
HF + ML HF + ML HF + ML DL + ML (TL) DL + ML (FT) DL + ML (FT) HF + ML HF + ML HF + ML HF + ML DL + ML (TL) DL + ML (TL) DL + ML (TL) DL + ML (FT) HF + ML TL) DL + ML (TL) DL + ML (TT) HF + ML	LBP + LPQ + GLCM SIFT RESNET 152 RESNET 152 RESNET 152 Haralick LPQ LBP + LPQ + GLCM LBP + LPQ Haralick IV3 VGG 19 + RESNET 152 + IV3 IV3 IV3 IV3 HOG HOG HOG HOG IV3 RESNET 152 IV3 VGG 19 + RESNET 152 IV3 IV3	SGD Decision Tree Decision Tree Naive Bayes Decision Tree Decision Tree Decision Tree Naive Bayes Naive Bayes Naive Bayes Naive Bayes Extremely Trees SVM Decision Tree Random Forest Extremely Trees Adaboost Random Forest Extremely Trees Linear SVM KNN SVM SGD KNN SVM SGD	0.61 0.6 0.59 0.58 0.57 0.57 0.56 0.56 0.55 0.54 0.53 0.52 0.52 0.52 0.52 0.51 0.51 0.51 0.51 0.51 0.55 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.
HF + ML HF + ML HF + ML DL + ML (TL) DL + ML (FT) DL + ML (FT) HF + ML HF + ML HF + ML HF + ML DL + ML (TL) DL + ML (FT) HF + ML HF + ML DL + ML (FT) HF + ML TL) DL + ML (FT) HF + ML	LBP + LPQ + GLCM SIFT RESNET 152 RESNET 152 RESNET 152 Haralick LPQ LBP + LPQ + GLCM LBP + LPQ Haralick IV3 VGG 19 + RESNET 152 + IV3 IV3 IV3 IV3 HOG IV3 HOG HOG HOG HOG HOG HOG IV3 IV3 RESNET 152 IV3 VGG 19 + RESNET 152 HOG HOG HOG	SGD Decision Tree Decision Tree Naive Bayes Decision Tree Decision Tree Decision Tree Naive Bayes Naive Bayes Naive Bayes Naive Bayes Extremely Trees SVM Decision Tree Random Forest Extremely Trees Adaboost Random Forest Extremely Trees Linear SVM KNN SVM SGD KNN SVM SGD SGD	0.61 0.6 0.59 0.58 0.57 0.57 0.56 0.56 0.55 0.54 0.53 0.52 0.52 0.52 0.52 0.51 0.51 0.51 0.51 0.51 0.55 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.
HF + ML HF + ML HF + ML DL + ML (TL) DL + ML (FT) DL + ML (FT) HF + ML (TL) DL + ML (TL) DL + ML (TL) DL + ML (TL) DL + ML (FT) HF + ML HF + ML DL + ML (FT) HF + ML	LBP + LPQ + GLCM SIFT RESNET 152 RESNET 152 RESNET 152 Haralick LPQ LBP + LPQ + GLCM LBP + LPQ Haralick IV3 VGG 19 + RESNET 152 + IV3 IV3 IV3 HOG IV3 HOG IV3 HOG HOG HOG HOG HOG HOG HOG HOG IV3 RESNET 152 IV3 VGG 19 + RESNET 152 HOG HARALICK HARALICK HARALICK HARALICK	SGD Decision Tree Decision Tree Naive Bayes Decision Tree Decision Tree Decision Tree Naive Bayes Naive Bayes Naive Bayes Naive Bayes Extremely Trees SVM Decision Tree Random Forest Extremely Trees Adaboost Random Forest Extremely Trees Linear SVM KNN SVM SGD KNN SVM SGD SGD SVM	0.61 0.6 0.59 0.58 0.57 0.57 0.56 0.56 0.55 0.54 0.53 0.52 0.52 0.52 0.52 0.52 0.51 0.51 0.51 0.51 0.55 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.
HF + ML HF + ML HF + ML DL + ML (TL) DL + ML (FT) HF + ML DL + ML (TL) DL + ML (TL) DL + ML (TL) DL + ML (TL) DL + ML (FT) HF + ML	LBP + LPQ + GLCM SIFT RESNET 152 RESNET 152 RESNET 152 Haralick LPQ LBP + LPQ + GLCM LBP + LPQ Haralick IV3 VGG 19 + RESNET 152 + IV3 IV3 IV3 HOG IV3 HOG IV3 HOG HOG IV3 RESNET 152 IV3 VGG 19 + RESNET 152 IV3 RESNET 152 IV3 RESNET 152 IV3 VGG 19 + RESNET 152 HOG Haralick Haralick LBP	SGD Decision Tree Decision Tree Naive Bayes Decision Tree Naive Bayes Decision Tree Naive Bayes Naive Bayes Naive Bayes Naive Bayes Extremely Trees SVM Decision Tree Random Forest Extremely Trees Adaboost Random Forest Extremely Trees Linear SVM KNN SVM SGD KNN SVM SGD SGD SVM SGD SVM SGD	0.61 0.6 0.59 0.58 0.57 0.57 0.56 0.56 0.55 0.54 0.53 0.52 0.52 0.52 0.52 0.52 0.51 0.51 0.51 0.51 0.51 0.55 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.
HF + ML HF + ML HF + ML DL + ML (TL) DL + ML (FT) DL + ML (FT) HF + ML HF + ML HF + ML HF + ML DL + ML (TL) DL + ML (FT) HF + ML HF + ML DL + ML (FT) HF + ML HF + ML HF + ML HF + ML TL) DL + ML (TL) DL + ML (TT) HF + ML HF + ML HF + ML HF + ML	LBP + LPQ + GLCM SIFT RESNET 152 RESNET 152 RESNET 152 Haralick LPQ LBP + LPQ + GLCM LBP + LPQ Haralick IV3 VGG 19 + RESNET 152 + IV3 IV3 IV3 IV3 HOG IV3 HOG HOG HOG HOG HOG HOG HOG HOG HOG IV3 VGG 19 + RESNET 152 IV3 VGG 19 + RESNET 152 IV3 RESNET 152 IV3 VGG 19 + RESNET 152 IV3 VGG 19 + RESNET 152 HOG Haralick Haralick LBP IV3	SGD Decision Tree Decision Tree Naive Bayes Decision Tree Decision Tree Decision Tree Naive Bayes Naive Bayes Naive Bayes Naive Bayes Extremely Trees SVM Decision Tree Random Forest Extremely Trees Adaboost Random Forest Extremely Trees Linear SVM KNN SVM SGD KNN SVM SGD SGD SVM SGD Decision Tree	0.61 0.6 0.59 0.58 0.57 0.57 0.56 0.56 0.55 0.54 0.53 0.52 0.52 0.52 0.52 0.51 0.51 0.51 0.51 0.51 0.55 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.
HF + ML HF + ML DL + ML (TL) DL + ML (FT) DL + ML (FT) HF + ML TL) DL + ML (TL) DL + ML (TL) DL + ML (TL) DL + ML (TL) DL + ML (FT) HF + ML TL) DL + ML (FT) DL + ML (FT) HF + ML	LBP + LPQ + GLCM SIFT RESNET 152 RESNET 152 RESNET 152 Haralick LPQ LBP + LPQ + GLCM LBP + LPQ Haralick IV3 VGG 19 + RESNET 152 + IV3 IV3 IV3 HOG IV3 HOG IV3 HOG HOG HOG HOG HOG HOG HOG HOG IV3 RESNET 152 IV3 VGG 19 + RESNET 152 IV3 RESNET 152 IV3 VGG 19 + RESNET 152 IV3 RESNET 152 IV3 VGG 19 + RESNET 152 IV3 VGG 19 + RESNET 152 HOG Haralick LBP IV3 IV3	SGD Decision Tree Decision Tree Naive Bayes Decision Tree Decision Tree Decision Tree Naive Bayes Naive Bayes Naive Bayes Naive Bayes Extremely Trees SVM Decision Tree Random Forest Extremely Trees Adaboost Random Forest Extremely Trees Linear SVM KNN SVM SGD KNN SVM SGD SGD SVM SGD Decision Tree Adaboost	0.61 0.6 0.59 0.58 0.57 0.57 0.56 0.56 0.55 0.54 0.53 0.52 0.52 0.52 0.52 0.51 0.51 0.51 0.51 0.51 0.55 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.
HF + ML HF + ML HF + ML DL + ML (TL) DL + ML (FT) HF + ML CL + ML (TL) DL + ML (TL) DL + ML (TL) DL + ML (FT) HF + ML HF + ML HF + ML DL + ML (TL)	LBP + LPQ + GLCM SIFT RESNET 152 RESNET 152 Haralick LPQ LBP + LPQ + GLCM LBP + LPQ + GLCM LBP + LPQ Haralick IV3 VGG 19 + RESNET 152 + IV3 IV3 IV3 HOG IV3 HOG IV3 HOG	SGD Decision Tree Decision Tree Naive Bayes Decision Tree Decision Tree Naive Bayes Naive Bayes Naive Bayes Naive Bayes Naive Bayes Extremely Trees SVM Decision Tree Random Forest Extremely Trees Adaboost Random Forest Extremely Trees Linear SVM KNN SVM SGD KNN SVM SGD SGD SVM SGD Decision Tree Adaboost Gradient Boosting	0.61 0.6 0.59 0.58 0.57 0.57 0.56 0.56 0.55 0.54 0.53 0.53 0.52 0.52 0.52 0.52 0.52 0.51 0.51 0.51 0.51 0.51 0.55 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.
HF + ML HF + ML DL + ML (TL) DL + ML (FT) DL + ML (FT) HF + ML DL + ML (TL) DL + ML (FT) HF + ML DL + ML (FT) HF + ML HF + ML HF + ML HF + ML DL + ML (FT)	LBP + LPQ + GLCM SIFT RESNET 152 RESNET 152 RESNET 152 Haralick LPQ LBP + LPQ + GLCM LBP + LPQ Haralick IV3 VGG 19 + RESNET 152 + IV3 IV3 IV3 IV3 HOG	SGD Decision Tree Decision Tree Naive Bayes Decision Tree Decision Tree Decision Tree Naive Bayes Naive Bayes Naive Bayes Naive Bayes Extremely Trees SVM Decision Tree Random Forest Extremely Trees Adaboost Random Forest Extremely Trees Linear SVM KNN SVM SGD KNN SVM SGD SGD SVM SGD SGD SVM SGD Decision Tree Adaboost Gradient Boosting KNN	0.61 0.6 0.59 0.58 0.57 0.57 0.56 0.56 0.55 0.54 0.53 0.52 0.52 0.52 0.52 0.52 0.51 0.51 0.51 0.51 0.51 0.55 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.
HF + ML HF + ML DL + ML (TL) DL + ML (FT) DL + ML (FT) HF + ML TL) DL + ML (TL) DL + ML (FT) HF + ML DL + ML (FT) HF + ML HF + ML HF + ML HF + ML DL + ML (FT)	LBP + LPQ + GLCM SIFT RESNET 152 RESNET 152 Haralick LPQ LBP + LPQ + GLCM LBP + LPQ + GLCM LBP + LPQ Haralick IV3 VGG 19 + RESNET 152 + IV3 IV3 IV3 IV3 HOG IV3 HOG HOG HOG HOG HOG IV3 VGG 19 + RESNET 152 HOG	SGD Decision Tree Decision Tree Naive Bayes Decision Tree Decision Tree Decision Tree Naive Bayes Naive Bayes Naive Bayes Naive Bayes Extremely Trees SVM Decision Tree Random Forest Extremely Trees Adaboost Random Forest Extremely Trees Linear SVM KNN SVM SGD KNN SVM SGD SGD SVM SGD Decision Tree Adaboost Gradient Boosting KNN SVM	0.61 0.6 0.59 0.58 0.57 0.57 0.56 0.56 0.55 0.54 0.53 0.53 0.52 0.52 0.52 0.52 0.52 0.51 0.51 0.51 0.51 0.51 0.55 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.
HF + ML HF + ML DL + ML (TL) DL + ML (FT) DL + ML (FT) HF + ML (TL) DL + ML (TL) DL + ML (TL) DL + ML (TL) DL + ML (FT) HF + ML DL + ML (FT) HF + ML DL + ML (FT) HF + ML HF + ML HF + ML DL + ML (FT) HF + ML	LBP + LPQ + GLCM SIFT RESNET 152 RESNET 152 Haralick LPQ LBP + LPQ + GLCM LBP + LPQ + GLCM LBP + LPQ Haralick IV3 VGG 19 + RESNET 152 + IV3 IV3 IV3 HOG IV3 HOG IV3 RESNET 152 IV3 VGG 19 + RESNET 152 + IV3 IV3 IV3 HOG HOG HOG HOG IV3 RESNET 152 IV3 VGG 19 + RESNET 152 HOG Haralick LBP IV3	SGD Decision Tree Decision Tree Naive Bayes Decision Tree Decision Tree Naive Bayes Naive Bayes Naive Bayes Naive Bayes Naive Bayes Extremely Trees SVM Decision Tree Random Forest Extremely Trees Adaboost Random Forest Extremely Trees Linear SVM KNN SVM SGD KNN SVM SGD SGD SVM SGD Decision Tree Adaboost Gradient Boosting KNN SVM SVM SGD SVM SGD SVM SGD Decision Tree	0.61 0.6 0.59 0.58 0.57 0.57 0.56 0.56 0.55 0.54 0.53 0.52 0.52 0.52 0.52 0.52 0.51 0.51 0.51 0.51 0.51 0.55 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.
HF + ML HF + ML HF + ML DL + ML (TL) DL + ML (FT) HF + ML TOL + ML (TL) DL + ML (FT) HF + ML DL + ML (FT) HF + ML HF + ML HF + ML HF + ML DL + ML (FT) HF + ML HF + ML HF + ML HF + ML	LBP + LPQ + GLCM SIFT RESNET 152 RESNET 152 Haralick LPQ LBP + LPQ + GLCM LBP + LPQ + GLCM LBP + LPQ Haralick IV3 VGG 19 + RESNET 152 + IV3 IV3 IV3 IV3 HOG IV3 HOG HOG HOG HOG HOG IV3 VGG 19 + RESNET 152 HOG	SGD Decision Tree Decision Tree Naive Bayes Decision Tree Decision Tree Decision Tree Naive Bayes Naive Bayes Naive Bayes Naive Bayes Extremely Trees SVM Decision Tree Random Forest Extremely Trees Adaboost Random Forest Extremely Trees Linear SVM KNN SVM SGD KNN SVM SGD SGD SVM SGD Decision Tree Adaboost Gradient Boosting KNN SVM	0.61 0.6 0.59 0.58 0.57 0.57 0.56 0.56 0.55 0.54 0.53 0.53 0.52 0.52 0.52 0.52 0.52 0.51 0.51 0.51 0.51 0.51 0.55 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.
HF + ML HF + ML HF + ML DL + ML (TL) DL + ML (FT) DL + ML (FT) HF + ML TL) DL + ML (TL) DL + ML (TL) DL + ML (TL) DL + ML (TL) DL + ML (FT) HF + ML TL) DL + ML (FT) HF + ML	LBP + LPQ + GLCM SIFT RESNET 152 RESNET 152 Haralick LPQ LBP + LPQ + GLCM LBP + LPQ + GLCM LBP + LPQ Haralick IV3 VGG 19 + RESNET 152 + IV3 IV3 IV3 HOG IV3 HOG IV3 RESNET 152 IV3 VGG 19 + RESNET 152 + IV3 IV3 IV3 HOG HOG HOG HOG IV3 RESNET 152 IV3 VGG 19 + RESNET 152 HOG Haralick LBP IV3	SGD Decision Tree Decision Tree Naive Bayes Decision Tree Decision Tree Naive Bayes Naive Bayes Naive Bayes Naive Bayes Naive Bayes Extremely Trees SVM Decision Tree Random Forest Extremely Trees Adaboost Random Forest Extremely Trees Linear SVM KNN SVM SGD KNN SVM SGD SGD SVM SGD Decision Tree Adaboost Gradient Boosting KNN SVM SVM SGD SVM SGD SVM SGD Decision Tree	0.61 0.6 0.59 0.58 0.57 0.57 0.56 0.56 0.55 0.54 0.53 0.52 0.52 0.52 0.52 0.52 0.51 0.51 0.51 0.51 0.51 0.55 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.
HF + ML HF + ML HF + ML DL + ML (TL) DL + ML (FT) DL + ML (FT) HF + ML HF + ML HF + ML HF + ML LHF + ML HF + ML DL + ML (TL) DL + ML (FT) HF + ML DL + ML (FT) HF + ML HF + ML HF + ML HF + ML DL + ML (TL) HF + ML	LBP + LPQ + GLCM SIFT RESNET 152 RESNET 152 RESNET 152 Haralick LPQ LBP + LPQ + GLCM LBP + LPQ Haralick IV3 VGG 19 + RESNET 152 + IV3 IV3 IV3 IV3 HOG HOG HOG HOG HOG Haralick LPQ Haralick IV3	SGD Decision Tree Decision Tree Naive Bayes Decision Tree Decision Tree Decision Tree Naive Bayes Naive Bayes Naive Bayes Naive Bayes Extremely Trees SVM Decision Tree Random Forest Extremely Trees Adaboost Random Forest Extremely Trees Linear SVM KNN SVM SGD KNN SVM SGD SGD SVM SGD SGD SVM SGD Decision Tree Adaboost Gradient Boosting KNN SVM SVM SVM SVM SGD Decision Tree	0.61 0.6 0.59 0.58 0.57 0.57 0.56 0.56 0.55 0.54 0.53 0.52 0.52 0.52 0.52 0.52 0.51 0.51 0.51 0.51 0.51 0.55 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.

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