Deep Learning

ResNet152

ResNet152 Lung	Precision			Recall			F1		
	Lung n	Lung aca	Lung scc	Lung n	Lung aca	Lung scc	Lung n	Lung aca	Lung scc
	0.92	1	0.95	0.95	0.98	0.93	0.93	0.99	0.94

ResNet152 Colon	Precision		Recall		F1	
	Colon aca	Colon n	Colon aca	Colon n	Colon aca	Colon n
	1	1	1	1	1	1

Xception + LSTM

Xception Lung	Precision			Recall			F1		
	Lung n	Lung aca	Lung scc	Lung n	Lung aca	Lung scc	Lung n	Lung aca	Lung scc
	1	1	1	1	0.99	1	1	1	1

Xception Colon	Precision		Recall		F1	
	Colon aca	Colon n	Colon aca	Colon n	Colon aca	Colon n
	1	1	1	1	1	1

TRANSFER LEARNING

VGG

VGG LUNG	Precision			Recall			F1		
Technique	Lung n	Lung aca	Lung scc	Lung n	Lung aca	Lung scc	Lung n	Lung aca	Lung scc
KNN	0.98	1	0.97	0.97	0.99	0.99	0.97	0.99	0.98
SGD	0.97	0.99	0.82	0.78	1	0.98	0.86	0.99	0.89
Naive Bayes	0.85	0.93	0.79	0.69	0.93	0.94	0.76	0.93	0.86
Decision Tree	0.8	0.94	0.86	0.82	0.92	0.86	0.81	0.93	0.86
Adaboost	0.9	0.96	0.78	0.7	0.97	0.95	0.78	0.97	0.86
Gradient Boosting	0.9	0.99	0.92	0.91	0.98	0.92	0.91	0.98	0.92
Random Forest	0.92	0.99	0.93	0.92	0.99	0.93	0.92	0.99	0.93
Extremely Trees	0.93	0.98	0.94	0.93	0.99	0.94	0.93	0.99	0.94
Linear SVM	0.93	0.99	0.93	0.92	0.99	0.93	0.92	0.99	0.93
SVM	0.98	0.99	0.99	0.98	1	0.97	0.98	0.99	0.98

VGG COLON	Precision		Recall		F1	
Technique	Colon aca	Colon n	Colon aca	Colon n	Colon aca	Colon n
KNN	0.99	1	1	0.99	1	0.99
SGD	0.99	0.99	0.99	0.99	0.99	0.99
Naive Bayes	0.94	0.96	0.96	0.94	0.95	0.95
Decision Tree	0.93	0.94	0.94	0.95	0.93	0.93
Adaboost	0.99	0.99	0.99	0.99	0.99	0.99
Gradient Boosting	0.98	0.99	0.99	0.98	0.99	0.99
Random Forest	0.98	0.99	0.99	0.98	0.99	0.99
Extremely Trees	0.98	1	1	0.98	0.99	0.99
Linear SVM	0.99	0.99	0.99	0.99	0.99	0.99
SVM	0.99	0.96	0.96	0.99	0.98	0.98

HANDCRAFTED FEATURES

HOG

HOG LUNG	Precision			Recall			F1		
Technique	Lung n	Lung aca	Lung scc	Lung n	Lung aca	Lung scc	Lung n	Lung aca	Lung scc
KNN	0.93	1	0.36	0.09	0.12	1	0.17	0.22	0.53
SGD	0.57	0.88	0.86	0.81	0.81	0.57	0.67	0.85	0.69
Naive Bayes	0.57	0.76	0.75	0.52	0.8	0.78	0.55	0.78	0.76
Decision Tree	0.5	0.72	0.65	0.52	0.68	0.65	0.51	0.7	0.65
Adaboost	0.68	0.9	0.71	0.54	0.87	0.87	0.6	0.88	0.78
Gradient Boosting	0.69	0.88	0.79	0.67	0.86	0.83	0.68	0.87	0.81
Random Forest	0.77	0.89	0.84	0.74	0.95	0.82	0.75	0.92	0.83
Extremely Trees	0.79	0.89	0.83	0.71	0.95	0.86	0.75	0.92	0.84
Linear SVM	0.74	0.87	0.78	0.63	0.9	0.86	0.68	0.89	0.82
SVM	0.73	0.87	0.77	0.62	0.9	0.87	0.67	0.88	0.82

HOG COLON	Precision		Recall		F1	
Technique	Colon aca	Colon n	Colon aca	Colon n	Colon aca	Colon n
KNN	0.52	0.98	1	0.06	0.68	0.12
SGD	0.63	0.68	0.73	0.58	0.68	0.63
Naive Bayes	0.59	0.64	0.72	0.51	0.65	0.57
Decision Tree	0.64	0.63	0.62	0.65	0.63	0.64
Adaboost	0.69	0.7	0.7	0.69	0.7	0.69
Gradient Boosting	0.72	0.72	0.73	0.72	0.72	0.72
Random Forest	0.83	0.72	0.67	0.86	0.74	0.79
Extremely Trees	0.81	0.72	0.67	0.84	0.73	0.78
Linear SVM	0.66	0.7	0.74	0.61	0.7	0.66
SVM	0.66	0.72	0.76	0.61	0.71	0.66

SIFT

SIFT LUNG	Precision			Recall			F1		
Technique	Lung n	Lung aca	Lung scc	Lung n	Lung aca	Lung scc	Lung n	Lung aca	Lung scc
KNN	0.33	0.25	0.23	0.48	0.26	0.12	0.39	0.25	0.16
SGD	0.33	0.13	0.17	0.48	0.09	0.15	0.39	0.11	0.16
Naive Bayes	0.34	0.11	0.15	0.82	0.02	0.06	0.48	0.04	0.08
Decision Tree	0.31	0.29	0.29	0.38	0.25	0.27	0.34	0.27	0.28
Adaboost	0.32	0.15	0.15	0.65	0.07	0.07	0.46	0.09	0.09
Gradient Boosting	0.31	0.2	0.18	0.55	0.12	0.11	0.4	0.15	0.14
Random Forest	0.33	0.22	0.23	0.57	0.13	0.16	0.42	0.16	0.19
Extremely Trees	0.33	0.18	0.19	0.63	0.09	0.12	0.43	0.12	0.14
Linear SVM	0.34	0.1	0	0.86	0.04	0	0.48	0.06	0
SVM	0.34	0.09	0.06	0.9	0.03	0	0.49	0.04	0

SIFT COLON	Precision		Recall		F1	
Technique	Colon aca	Colon n	Colon aca	Colon n	Colon aca	Colon n
KNN	0.48	0.49	0.26	0.72	0.34	0.59
SGD	0.54	0.53	0.4	0.67	0.46	0.59
Naive Bayes	0.5	0.5	0.34	0.66	0.41	0.57
Decision Tree	0.48	0.48	0.48	0.48	0.48	0.48
Adaboost	0.53	0.52	0.51	0.54	0.52	0.53
Gradient Boosting	0.53	0.53	0.52	0.55	0.52	0.54
Random Forest	0.5	0.5	0.46	0.54	0.48	0.52
Extremely Trees	0.53	0.53	0.5	0.56	0.51	0.55
Linear SVM	0.57	0.52	0.25	0.81	0.35	0.63
SVM	0.55	0.52	0.3	0.76	0.39	0.62

HARALICK

HARALICK LUNG	Precision			Recall			F1		
Technique	Lung n	Lung aca	Lung scc	Lung n	Lung aca	Lung scc	Lung n	Lung aca	Lung scc
KNN	0.81	0.9	0.88	0.78	0.92	0.89	0.79	0.91	0.88
SGD	0.79	0.83	0.64	0.31	0.94	0.95	0.44	0.88	0.77
Naive Bayes	0.48	0.85	0.58	0.3	0.84	0.81	0.37	0.85	0.68
Decision Tree	0.78	0.92	0.89	0.81	0.88	0.88	0.8	0.9	0.89
Adaboost	0.46	0.84	0.86	0.8	0.89	0.18	0.59	0.86	0.3
Gradient Boosting	0.82	0.86	0.88	0.73	0.94	0.89	0.77	0.9	0.88
Random Forest	0.88	0.92	0.91	0.82	0.96	0.93	0.85	0.94	0.92
Extremely Trees	0.89	0.92	0.91	0.83	0.96	0.93	0.86	0.94	0.92
Linear SVM	0.85	0.92	0.87	0.79	0.96	0.91	0.82	0.94	0.89
SVM	0.84	0.88	0.87	0.74	0.97	0.9	0.79	0.92	0.88

HARALICK COLON	Precision		Recall		F1	
Technique	Colon aca	Colon n	Colon aca	Colon n	Colon aca	Colon n
KNN	0.78	0.72	0.68	0.81	0.73	0.76
SGD	0.69	0.63	0.57	0.75	0.62	0.69
Naive Bayes	0.67	0.55	0.28	0.86	0.4	0.67
Decision Tree	0.77	0.76	0.75	0.77	0.76	0.77
Adaboost	0.74	0.66	0.59	0.79	0.66	0.72
Gradient Boosting	0.74	0.68	0.63	0.78	0.68	0.73
Random Forest	0.85	0.79	0.77	0.86	0.81	0.82
Extremely Trees	0.87	0.79	0.76	0.88	0.81	0.83
Linear SVM	0.82	0.77	0.74	0.84	0.78	0.8
SVM	0.83	0.74	0.7	0.86	0.76	0.8

LBP

LBP LUNG	Precision			Recall			F1		
Technique	Lung n	Lung aca	Lung scc	Lung n	Lung aca	Lung scc	Lung n	Lung aca	Lung scc
KNN	0.93	0.97	0.95	0.92	0.98	0.95	0.92	0.97	0.95
SGD	0.6	0.73	0.76	0.58	0.87	0.64	0.59	0.8	0.7
Naive Bayes	0.65	0.87	0.82	0.72	0.84	0.77	0.68	0.86	0.79
Decision Tree	0.9	0.98	0.93	91	0.96	0.93	0.9	0.97	0.93
Adaboost	0.82	0.89	0.78	0.63	0.98	0.88	0.71	0.94	0.83
Gradient Boosting	0.91	0.96	0.92	0.88	0.98	0.94	0.9	0.97	0.93
Random Forest	0.98	0.98	0.97	0.95	0.99	0.98	0.96	0.99	0.98
Extremely Trees	0.99	0.99	0.99	0.97	1	0.99	0.98	0.99	0.99
Linear SVM	0.88	0.95	0.88	0.82	0.97	0.92	0.85	0.96	0.9
SVM	0.88	0.94	0.9	0.84	0.98	0.91	0.86	0.96	0.9

LBP COLON	Precision		Recall		F1	
Technique	Colon aca	Colon n	Colon aca	Colon n	Colon aca	Colon n
KNN	0.98	0.97	0.97	0.98	0.97	0.97
SGD	0.73	0.77	0.78	0.71	0.76	0.74
Naive Bayes	0.85	0.79	0.78	0.87	0.81	0.83
Decision Tree	0.96	0.96	0.96	0.96	0.96	0.96
Adaboost	0.97	0.97	0.97	0.97	0.97	0.97
Gradient Boosting	0.98	0.98	0.98	0.98	0.98	0.98
Random Forest	0.98	0.98	0.98	0.98	0.98	0.98
Extremely Trees	0.99	0.99	0.99	0.99	0.99	0.99
Linear SVM	0.97	0.96	0.96	0.97	0.97	0.97
SVM	0.97	0.96	0.95	0.97	0.96	0.96