



Model	AUC	CA	F1	Prec	Recall	MCC
kNN	0.965	0.837	0.835	0.845	0.837	0.795
SVM	0.987	0.905	0.904	0.907	0.905	0.879
Logistic Regression	0.992	0.934	0.934	0.934	0.934	0.917
Tree	0.821	0.689	0.687	0.687	0.689	0.606
Random Forest	0.945	0.773	0.768	0.779	0.773	0.712
Constant	0.494	0.259	0.106	0.067	0.259	0.000

Why linear regression can't use for classification?

1. Linear Regression deals with continuous values whereas images are discrete values.
2. The threshold value may change after adding more data points

KNN

		Predicted					Σ
		fly	gnat	midge	mothfly	thrips	
Actual	fly	66	25	3	1	0	95
	gnat	7	70	5	0	0	82
	midge	2	2	107	0	3	114
	mothfly	2	1	8	36	4	51
	thrips	0	0	7	2	90	99
Σ		77	98	130	39	97	441

SVM

		Predicted					Σ
		fly	gnat	midge	mothfly	thrips	
Actual	fly	86	7	1	1	0	95
	gnat	14	66	2	0	0	82
	midge	0	2	107	0	5	114
	mothfly	3	0	2	43	3	51
	thrips	0	0	2	0	97	99
Σ		103	75	114	44	105	441

Logistics Regression

		Predicted					Σ
		fly	gnat	midge	mothfly	thrips	
Actual	fly	86	5	1	3	0	95
	gnat	8	72	1	1	0	82
	midge	1	1	110	0	2	114
	mothfly	1	0	2	48	0	51
	thrips	0	0	3	0	96	99
Σ		96	78	117	52	98	441

Tree

		Predicted					Σ
		fly	gnat	midge	mothfly	thrips	
Actual	fly	68	17	7	3	0	95
	gnat	27	42	9	4	0	82
	midge	5	10	82	4	13	114
	mothfly	5	2	7	30	7	51
	thrips	1	0	10	6	82	99
Σ		106	71	115	47	102	441

Random Forest

		Predicted					Σ
		fly	gnat	midge	mothfly	thrips	
Actual	fly	77	12	2	3	1	95
	gnat	24	51	6	1	0	82
	midge	5	0	100	0	9	114
	mothfly	2	3	4	28	14	51
	thrips	0	0	14	0	85	99
Σ		108	66	126	32	109	441

Constant

		Predicted					Σ
		fly	gnat	midge	mothfly	thrips	
Actual	fly	0	0	95	0	0	95
	gnat	0	0	82	0	0	82
	midge	0	0	114	0	0	114
	mothfly	0	0	51	0	0	51
	thrips	0	0	99	0	0	99
Σ		0	0	441	0	0	441