

ML Models	Performance Metrics	IM		AC	
		Amplitude as Feature	Amplitude + TOA as Feature	Amplitude as Feature	Amplitude + TOA as Feature
Total Samples ::		4053	4053	1625	1625
Training Samples ::		2715	2715	1300	1300
Testing Samples ::		1338	1338	325	325
Random forest	Confusion matrix	[[1090 28] [101 119]]	[[1053 65] [29 191]]	[[261 8] [52 4]]	[[251 18] [4 52]]
	Accuracy	0.897	0.929	0.815	0.932
	Precision 1	0.81	0.75	0.33	0.74
	Precision 0	0.92	0.97	0.83	0.98
	Recall 1	0.54	0.87	0.7	0.93
	Recall 0	0.97	0.94	0.97	0.93
	F1 Score 1	0.65	0.8	0.12	0.86
	F1 Score 0	0.94	0.96	0.9	0.93
	Log Loss	3.329	2.426	6.376	2.338
	Error Rate	0.096	0.07	0.184	0.067
AUC	0.757	0.905	0.52	0.93	
Gaussian Naïve Bayes	Confusion matrix	[[1089 29] [93 127]]	[[1083 35] [77 143]]	[[269 0] [56 0]]	[[244 25] [3 53]]
	Accuracy	0.911	0.916	0.827	0.913
	Precision 1	0.81	0.8	0	0.68
	Precision 0	0.92	0.93	0.83	0.99
	Recall 1	0.58	0.65	0	0.95
	Recall 0	0.97	0.97	1	0.91
	F1 Score 1	0.68	0.72	0	0.79
	F1 Score 0	0.95	0.95	0.91	0.95
	Log Loss	3.149	2.891	5.95	2.975
	Error Rate	0.091	0.083	0.172	0.086
AUC	0.775	0.809	0.5	0.926	
Logistic Regression	Confusion matrix	[[1105 13] [107 113]]	[[1090 28] [72 148]]	[[269 0] [56 0]]	[[251 18] [17 39]]
	Accuracy	0.906	0.925	0.827	0.892
	Precision 1	0.9	0.84	0	0.68
	Precision 0	0.91	0.94	0.83	0.94
	Recall 1	0.51	0.67	0	0.7
	Recall 0	0.99	0.97	1	0.93
	F1 Score 1	0.65	0.75	0	0.69
	F1 Score 0	0.95	0.96	0.91	0.93
	Log Loss	3.097	2.581	5.95	3.719
	Error Rate	0.089	0.074	0.172	0.107
AUC	0.751	0.823	0.5	0.814	
SVM	Confusion matrix	[[1091 27] [98 122]]	[[1051 67] [76 144]]	[[269 0] [56 0]]	[[244 25] [8 48]]
	Accuracy	0.908	0.893	0.827	0.898
	Precision 1	0.82	0.68	0	0.66
	Precision 0	0.92	0.93	0.83	0.97
	Recall 1	0.55	0.65	0	0.91
	Recall 0	0.98	0.94	1	0.86
	F1 Score 1	0.66	0.67	0	0.74
	F1 Score 0	0.55	0.94	0.91	0.94
	Log Loss	3.226	3.691	5.95	3.507
	Error Rate	0.093	0.106	0.172	0.101
AUC	0.765	0.797	0.5	0.882	