

# HAR DATASET REPORT

## MODEL SELECTION RESULTS:

	MODEL SELECTION TIME	MODEL NAME	ACCURACY
	1718.2692	LGBM	0.99

## K VALUE SELECTION RESULTS:

### PCA RESULTS

Feature Selection	K Value	K Computation Time	PCA Train Time	PCA Test Time
Shap	106	4.7194	4.3694	0.0951
Fisher Count	181	0.1629	5.5038	0.0861
Chi2	236	0.0960	6.1715	0.0742
RelieF Count	154	1062.7180	5.5063	0.0851
Info Count	197	30.6553	5.8011	0.0902

## MODEL PERFORMANCE REPORT AFTER PCA

Feature Selection	Accuracy	Precision	Recall	F1-score	Area under ROC
Shap	0.9615	0.9620	0.9618	0.9620	0.9980
Fisher Score	0.9619	0.9627	0.9623	0.9624	0.9981
Chi2 Test	0.9654	0.9663	0.9656	0.9658	0.9985
RelieF Count	0.9592	0.9602	0.9598	0.9599	0.9981
Info Gain	0.9603	0.9611	0.9607	0.9608	0.9983

## **ICA RESULTS**

Feature Selection	K Value	ICA Train Time	ICA Test Time
Shap	115	12.2963	0.1177
Fisher Count	191	39.1689	0.1310
Chi2	241	26.7729	0.0967
RelieF Count	154	18.2464	0.1124
Info Count	233	25.2729	0.1253

## **MODEL PERFORMANCE REPORT AFTER ICA:**

Feature Selection	Accuracy	Precision	Recall	F1-score	Area under ROC
Shap	0.9553	0.9564	0.9549	0.9552	0.9976
Fisher Score	0.9646	0.9643	0.9649	0.9645	0.9981
Chi2_Test	0.9689	0.9686	0.9693	0.9688	0.9987
RelieF Count	0.9627	0.9633	0.9631	0.9630	0.9984
Info Gain	0.9603	0.9603	0.9605	0.9603	0.9984