Classifier	Parameters	Mean F1
KNeighborsClassifier	n_neighbors=1	0.132675813
KNeighborsClassifier	n_neighbors=3	0.08150403
KNeighborsClassifier	n_neighbors=5	0.03883823
SVC (Best result)	C=4.0 kernel= poly coef0= 5.0 degree = 10 gamma=1/(X.shape[1]*X.std())	0.60600373

Phase 2 best results

Best result for KNeighborsClassifier	
PCA parameters	n_components= 55 , copy=False, whiten=True, svd_solver='auto', iterated_power='auto'
KNeighborsClassifier parameters	n_neighbors = 1, n_jobs = -1
Mean F1	0.151631059162092

Best result for SVC	
PCA parameters	n_components= 3000
SVC parameters	C = 4.0 , kernel = 'poly', coef0= 5.0 ,degree = 10 , gamma=1/(X.shape[1]*X.std())
Mean F1	0.609185913807599