

A.

Metric	Advanced Model Testing Performance (All Gene based Features)					
	Gradient Boosting Classifier	Random Forest Classifier	Extra Trees Classifier	Logistic Regression	Support Vector Machine	K Nearest Neighbor
Accuracy	0.90	0.89	0.89	0.84	0.87	0.83
Precision	0.92	0.91	0.91	0.92	0.92	0.91
Recall	0.93	0.93	0.93	0.84	0.89	0.84
F1	0.93	0.92	0.92	0.88	0.91	0.87
AUC	0.87	0.86	0.86	0.84	0.85	0.83
Average Precision-Recall	0.97	0.96	0.95	0.94	0.94	0.93

Supplementary Figure S17. (A) In Table A, we display the prediction performance of the "Advanced" model across all classifiers trained on the top 25 omics features identified using the hybrid feature selection technique. The table summarizes the algorithms' best scores on the testing dataset for each criterion (accuracy, precision, recall, F1, AUC-ROC, Average Precision-Recall).