

**S7 Table.** Comparing area under the receiver operating characteristics and accuracy of different machine learning algorithms via 5-fold cross-validation with random splitting and Bayesian optimization using the SEER dataset

Algorithm		1-Year	2-Year	3-Year	4-Year	5-Year	6-Year	8-Year	10-Year
Logistic regression	AUC	81.8±0.3	80.6±0.1	80.4±0.2	80.3±0.2	80.0±0.2	79.9±0.0	80.3±0.2	80.9±0.3
	Accuracy	74.9±0.2	74.8±0.1	74.7±0.2	74.1±0.1	73.5±0.2	73.0±0.1	72.9±0.1	73.3±0.4
Decision tree	AUC	81.1±0.3	80.4±0.3	80.2±0.2	80.1±0.2	80.0±0.2	79.9±0.3	80.2±0.3	81.1±0.3
	Accuracy	73.5±1.4	74.6±0.3	74.1±0.4	73.9±0.2	73.2±0.2	73.0±0.2	72.6±0.2	72.6±0.7
Random forests	AUC	82.2±0.1	81.5±0.2	81.1±0.1	81.1±0.2	80.9±0.2	80.8±0.2	81.1±0.2	82.1±0.1
	Accuracy	74.7±0.6	75.0±0.4	74.8±0.1	74.6±0.2	73.9±0.1	73.6±0.2	73.3±0.1	73.7±0.1
Light gradient boosting	AUC	83.2±0.3	81.9±0.1	81.7±0.2	81.6±0.3	81.3±0.2	81.4±0.3	81.7±0.2	82.4±0.2
	Accuracy	75.3±0.1	74.9±0.1	74.8±0.1	74.6±0.3	74.1±0.2	73.9±0.3	73.7±0.2	73.9±0.2

AUC, area under the curve; SD, standard deviation; SEER, Surveillance, Epidemiology, and

End Results.