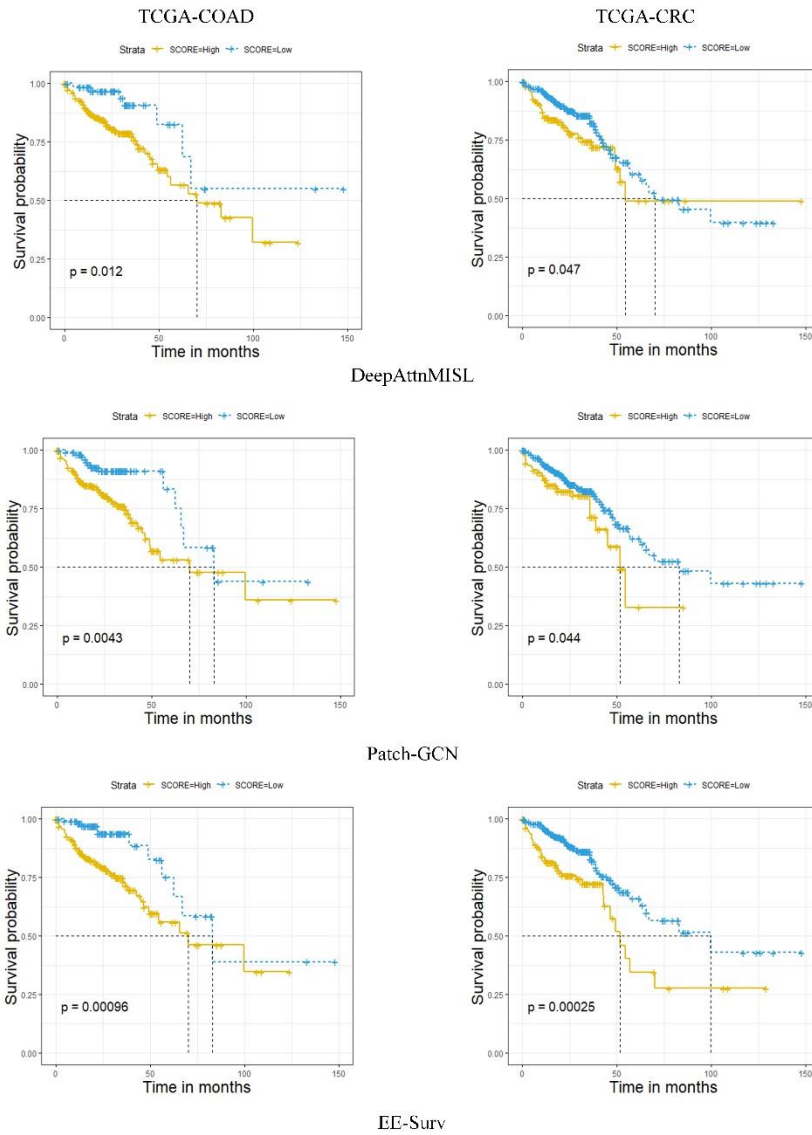


1 Comparison Study

Apart from the C-index (CI), we plotted the Kaplan-Meier (KM) curves to verify whether there is a significant difference in survival time between different patient groups across multiple comparable methods.



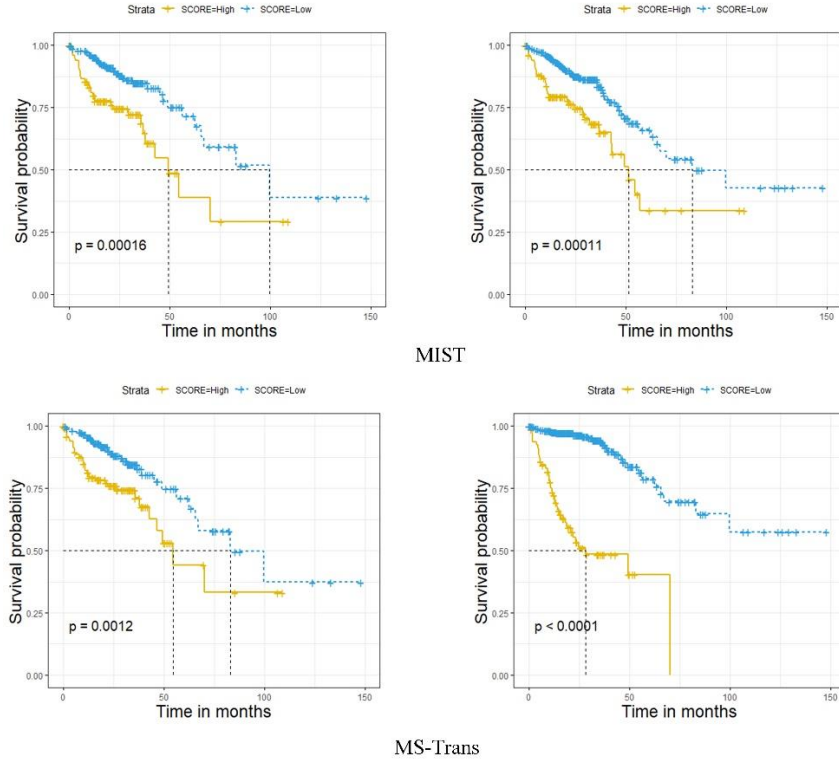


Fig. 1. Kaplan-Meier (KM) survival curves on TCGA-COAD and TCGA-CRC cohorts based on survival risk scores predicted by different models.

As shown in Fig.1, multiple KM survival curves depict diverse survival predictions across time for patients in two TCGA study cohorts. Our findings reveal that the curve delineates the patients' survival probability over the course of the study period. Drawing upon the predictive outcomes of individual models, we undertook comparisons between two risk strata: high-risk and low-risk. Remarkably, the stratification effects exhibit variations across the models. In contrast to the observations presented in Fig. 2 of the main manuscript, our model showcases a pronounced survival distinction within both TCGA cohorts, yielding log-rank p-values of 0.00081 and less than 0.0001. These results underscore the promising utility of our approach for prognosticating survival risk.