

Air Passenger Forecasting within a Framework of Hybrid Ensemble Learning Paradigm

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In this study, three hybrid approaches based on least squares support vector regression (LSSVR) model for air passenger forecasting at airports are proposed within a framework of hybrid ensemble learning paradigm. The proposed hybrid approaches are compared empirically with each other and with other benchmark methods in terms of measurement criteria on the forecasting performance. The results suggest that the proposed hybrid approaches can achieve better forecasting performance than individual approaches. It is implied that the description of the seasonal nature and nonlinear characteristics of container throughput series is important for good forecasting performance, which can be realized efficiently by decomposition and the “divide and conquer” principle.

Key Words: Hybrid approach, Least squares support vector regression, Decomposition, Air passenger forecasting