ABSTRACT

Customer booking prediction is essential for On-Demand Transport services, especially for those in rural and suburban areas where the demand is low, variable and often regarded as unpredictable. Existing literature tends to focus more on the prediction of demand for traffic, classical public transport, and urban On-Demand Transport service such as taxi, Uber or Lyft, in areas with higher and less variable demand, in which popular time-series prediction methods can be employed. This paper proposes an ensemble learning framework to predict the customer booking behaviour and demand using the observed data of a suburban On-Demand Transport service where data scarcity is a challenge. The proposed method, which is called as Class-specific Soft Voting, is found to be the most accurate prediction method when compared to popular supervised classification methods such as Logistic Regression, Random Forest, Support Vector Machine and other ensemble techniques.