

Using Probe Person Data for Travel Mode Detection

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Abstract : Recently GPS data is used in a lot of studies to automatically reconstruct travel patterns for trip survey. The aim is to minimize the use of questionnaire surveys and travel diaries so as to reduce their negative effects. In this paper data acquired from GPS and accelerometer embedded in smart phones is utilized to predict the mode of transportation used by the phone carrier. For prediction, Support Vector Machine (SVM) and Adaptive boosting (AdaBoost) are employed. Moreover a unique method to improve the prediction results from these algorithms is also proposed. Results suggest that the prediction accuracy of AdaBoost after improvement is relatively better than the rest.

Keywords : accelerometer, AdaBoost, GPS, mode prediction, support vector machine

Conference Title : ICSRD 2020 : International Conference on Scientific Research and Development

Conference Location : Chicago, United States

Conference Dates : December 12-13, 2020