ABSTRACT

COMPRESSION, COMPRESSED SENSING AND COMPRESSED PREDICTION OF URBAN TRAFFIC DATA

A real-time compression method for predicting vehicular traffic conditions within a geographical area is described. The geographical area includes a network of vehicular roads having subsets of roads, each subset of roads including a group of at least a segment of some of the roads which are selected as being suitable to represent the network of roads. The selection is based on weightage assigned to each road of the network, and the assignment is based on correlation of historical vehicular traffic data of the network to respective roads of the network. The method comprises (i) providing spatial relations data indicative of a spatial relationship between the selected segments of some of the roads and the rest of the roads of the network; (ii) obtaining current traffic conditions data by real-time detection of vehicular traffic conditions at the selected segments of the roads; and (iii) predicting future traffic conditions for the network of roads within the geographical area from the current traffic conditions data at the selected segments of the roads and the spatial relations data.

[Fig. 4]