SYSTEM AND METHOD FOR ADAPTIVELY PREDICTING A ROAD SEGMENT ATTRIBUTE BASED ON A GRAPH INDICATIVE OF RELATIONSHIP BETWEEN A ROAD SEGMENT AND A DETECTION

Technical Field

[0001] The present invention relates generally to technology and, in particular, to a system and method for adaptively adaptively predicting a road segment attribute e.g. turn restrictions, speed limits based on a graph indicative of a relationship between a road segment and a detection. Examples of the detections include traffic signs that are collected from images retrieved from road segments.

Background

[0002] Having an up-to-date map is extremely useful in a variety of contexts and applications. The traditional way for updating maps can involve a tremendous amount of human effort. For that reason, there are various conventional methods of collecting relevant map information. One of the which is based on collecting, analysing and interpreting street level imagery.

[0003] There are multiple efforts done with an intention to extract relevant information from street level imagery for mapping. However, none of the conventional technique is able to adaptively predict road segments attribute e.g. turn restrictions, speed limits based on a graph indicative of a relationship between a road segment and a detection.for a selected road network. The relationship between the road segments and detections being represented as a graph. A need therefore exists to provide a system and method to address the above-mentioned problems.

Summary

[0004] According to a first aspect of the present disclosure, there is provided a computer-implemented method for adaptively predicting a road segment attribute based on a road segment graph network that is indicative of a connection between two or more road segments, the method comprising: identifying the road segment and its corresponding feature; identifying a detection in proximity to one of the two or more road segments, and

adaptively providing the road segment graph network indicative of a relationship between the detection and each different segment direction of the one of the two or more road segments so as to predict the road segment attribute.

[0005] According to a second aspect of the present disclosure, there is provided a server for adaptively predicting a road segment attribute based on a road segment graph network that is indicative of a connection between two or more road segments, the server comprising: at least one processor; and at least one memory including computer program code; the at least one memory and the computer program code configured to, with the at least one processor, cause the server at least to: identify a detection in proximity to one of the two or more road segments, and adaptively provide the road segment graph network indicative of a relationship between the detection and each different segment direction of the one of the two or more road segments so as to predict the road segment attribute.

Brief Description of the Drawings

[0006] Embodiments and implementations are provided by way of example only, and will be better understood and readily apparent to one of ordinary skill in the art from the following written description, read in conjunction with the drawings, in which:

[0007] Fig. 1 is a block diagram of a system for providing a graph in accordance with an aspect of the present disclosure.

[0008] Fig. 2 is a flow chart diagram of a method for adaptively providing a graph indicative of a relationship between a road segment and a detection by the graph generating server in the system of Fig. 1.

[0009] Fig. 3 shows a diagram of how a graph can be provided for a road network having a plurality of road segments according to an embodiment of the method in Fig. 2.

[0010] Fig. 4 shows a diagram of how a road network can be represented as an undirected graph according to an embodiment of the method in Fig. 2.