Abstract

This paper presents a system that determines the optimal traffic route using the shortest path approach. The client requests the optimal traffic route from a specified source to the destination, and the server responds with an image processing result. The proposed system utilizes Dijkstra’s algorithm to find the optimal traffic route as the shortest cost path. Every node is considered as a location in the route from the source to the destination. The cost of the path between two nodes is the vehicle count. According to the cost of the nodes, the system suggests the optimal traffic route from the given source to the destination.

For detecting vehicle density, different image processing techniques and algorithms are used, including background subtraction, image filtering, image binary, and segmentation. The system processes information from a pre-recorded video stream at the server side and suggests the optimal traffic route. The paper also focuses on the New Inter frame Difference algorithm for image processing in vehicle density detection.
References

7. Shortest path algorithms: An Evaluation using real road networks - article in Transportation Science: Feb 1998 - Source: DBLP.

Index Terms

Computer Science
Networks

Keywords

Adaptive Background Generation, Morphological Filtering, Virtual Detector.