Abstract

Moving vehicles segmentation is an interesting yet difficult problem in intelligent transportation system. Ordinary segmentation method is obstructed by some problems: the moving objects in dynamic scenes are the examples. Bayesian framework is utilized to classify the motion in the scenes to improve the robustness of the model and EM algorithm is used to estimate the parameters of the model. The direction and magnitude of the motion vectors are the inputs to the Bayesian rule and EM algorithm. In existing methods traditional Exhaustive search method is used for finding the motion vector. Computational cost of the Exhaustive search method is high. In this paper we are using some fast algorithms like Three Step Search and Four Step Search algorithms for reducing the computational cost. Experimental results on the scene, ’waving trees’, shows that the proposed model can segment the moving vehicles correctly with less computational cost. Quantitative evaluations demonstrate that the proposed method outperform the existing methods.

Reference


**Index Terms**

<table>
<thead>
<tr>
<th>Computer Science</th>
<th>Segmentation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Techniques</td>
<td></td>
</tr>
</tbody>
</table>

**Key words**

Bayesian framework  
EM algorithm

Motion vector

Exhaustive search algorithm

Four step search algorithm