TRAFFIC ANALYZER USING IMAGE PROCESSING

By

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ABSTRACT

Traffic analyzer using image processing is PC based window application which capable to analyze traffic parameter such as vehicle rate by using image processing technique. Input of this application is video file which contain captured video on all top view of road. This program will fragment that video file to be several number of frame image. The image will be masked to remove irrelevant area so that not influence further processing. Captured present image and background image will be compared to extract foreground object which is usually a vehicle. Then, segmentation process will evaluate that compared image to get presence of the vehicle. Segmented image always come with noise. For this reason, median filtering is applied to segmented image to get clearer image. Then, object filtration processor will process filtered image to filter the vehicle on the image. Object filtration is based on object size in the image. Then, that frame will compare with previous frame to acquire the number of new vehicle in a present frame. That acquisition number of new vehicle in a frame will increment the present vehicle counter register.

CHAPTER 1

INTRODUCTION

1.1   Introduction

Traffic analyzer (TF) using image processing is offline PC based window application which applied to analyze the number of vehicle passing on a single road. In real application, it will receive input in video file which contain motion picture of top view on a single road. Here, this application will count the number of vehicle that passing the road. TF is GUI (Graphical User Interface) based software for computer and user interaction. It also uses image processing technique as the main processing tool. It is engineered using Microsoft Visual C# as software development tool and image processing technique implementation. The main reason of TF development is to eliminate human vehicle counter by windows based application so that it economical for real life application. This economical system will boost up vehicle surveying industry, GPS service provider and etc.

1.2   Main Reason Factor: Cost.

From agriculture to aerospace, the main factor that influences the working of a system, marketability and availability is cost. A low cost system makes a system valuable and competitive to survive in the world market. In real business, the min contributor of high