Traf: A Camera Based System for Traffic Flow Analysis

Abstract—In this paper, we present a camera based system(CBS-TFM) to count automotive vehicles for traffic flow analysis use. The system employs the method of background subtraction by comparing differences between foreground and background. The background model is initialed by averaging first 50 frames, and adapted to environment change by introducing an adapting parameter λ. Compared to state-of-art method, it is more robust, adaptive and economical.

I. INTRODUCTION

II. SYSTEM DESIGN

A. Overview

The system consists of 3 main modules, video collector, vehicle counter and traffic flow analyzer. The system diagram is show as Fig 1.

Fig. 1. System diagram

B. Background Subtraction

C. Background Model

D. Motion Detection and Tracking

E. Traffic Flow Analysis

III. IMPLEMENTATION AND EVALUATION

A. Setup

B. Methodology

C. Result

IV. CONCLUSION