

## عنوان مقاله:

An Innovative Intelligent Traffic System for Automatic Detection of Violent Vehicles from Surveillance Videos

## محل انتشار:

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## خلاصه مقاله:

Intelligent traffic control systems for detection of traffic rule violation is very important. For this purpose, image processing is employed in traffic analysis procedures. In this paper, a new approach is presented for extracting information of moving vehicles such as their speeds and paths to observe whether any one of them violates the traffic rules or not. For this purpose, first a series of video frames are acquired to initialize foreground from background discrimination based on Gaussian Mixture Model strategy. Then, moving objects are detected in the rest of video stream frames according to the detections corresponding to the same object over time. For this goal, a Munkres' version of Hungarian algorithm is employed which provides tracking predictions for detected moving objects. After extracting such information, the paths and speeds of detected moving objects are analyzed and the traffic rule violations will be detected automatically. The implementation results related to the pilot version of proposed method demonstrates its high quality and feasibility even for traffic videos acquired by static cameras with strict and steady calibrations.

## کلمات کلیدی:

Gaussian Mixture Model, Kalman Filtering, Hungarian Algorithm, Intelligent Transportation System, Munkres' version of Hungarian Algorithm

## لینک ثابت مقاله در پایگاه سیویلیکا:

<https://civilica.com/doc/448002>

