



VISTA – Methodology for testing and evaluation

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Problem definition

Definition of experiments which will be used for achieving proofs-of-concept evaluation of driver assistance systems

- experiments and testing requires scenarios and criteria for quantitative measurement and comparison
- need for designing a new system using one camera for vehicle detection, tracking and trajectory estimation suitable for outdoor road traffic video analysis of a small segment of road network

Potential applications

Implementation in Intelligent Transportation Systems (ITS)

- implementation of new services into existing ITS systems
- raising the quality of ITS services

Possible services

- traffic monitoring and management
- detection of incident situations
- measurement of road traffic parameters to improve current analysis and studies of road traffic network

Techniques

Vehicle detection based on image processing

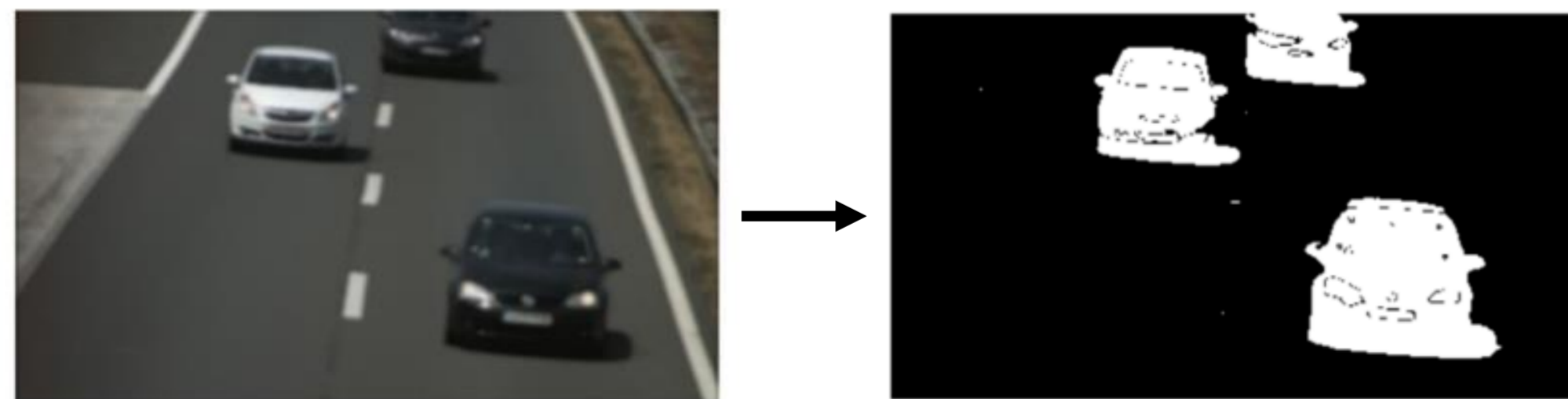
- separating dynamic (vehicles) and static objects (background) in an image
- clustering dynamic objects in the image

Vehicle tracking and counting

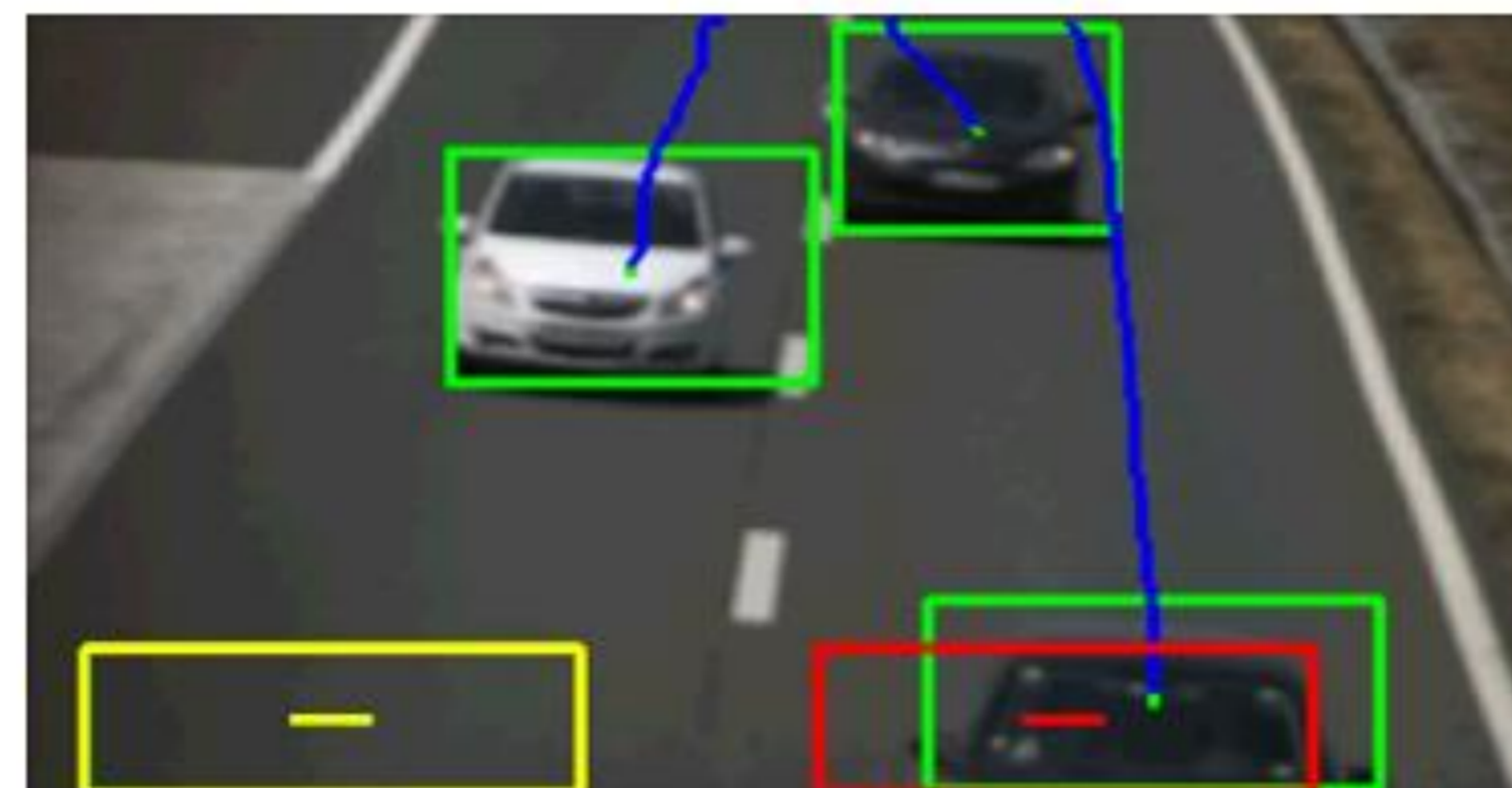
- extracting vehicle location in the image and tracking it through several consecutive images
- improving vehicle trajectory estimation by the use of an Extended Kalman Filter
- counting vehicles which have passed over virtual markers in the image

Results

Vehicle detection



Vehicle tracking and counting



Contact

VISTA

Computer Vision Innovations for Safe Traffic

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