

Motion Information Extraction System

Abstract

A method, an apparatus, and a computer program product for extracting motion information (110) from a video sequence (130, 600) containing interframe motion vectors (120) are disclosed. In particular, motion information (110) is automatically extracted (610) from an encoded traffic video stream (600) to detect speed, density and flow. The motion information (110) extracted is under fixed camera settings and in a well-defined environment. The motion vectors (120) are first separated (610) from the compressed streams (130) during decoding and filtered (620) to eliminate incorrect and noisy motion vectors based on the well-defined environmental knowledge. By applying a projective transform (630) to the filtered motion vectors, speed, density, and flow can be detected (640, 650, 660). In this manner, a traffic monitoring system is implemented.

FIG. 6