

**Title:** Automatic Vehicle Detection and Classification

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**Abstract:** This paper presents a proposal for an automatic vehicle detection and classification (AVDC) system. The proposed AVDC should classify vehicles accordingly to the Portuguese legislation (vehicle height over the first axel and number of axels), and should also support profile based classification. The AVDC should also fulfill the needs of the Portuguese motorway operator, Brisa. For the classification based on the profile we propose:he use of Eigenprofiles, a technique based on Principal Components Analysis. The system should also support multi-lane free flow for future integration in this kind of environments.

**Keywords Plus:** Automatic Vehicle; Detection; Classification

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