

## 用于公共交通系统的分布式智能监控系统中的视听信息融合

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### 摘要

提出了一个全新的概念, 该概念表述了通过融合来自分布式视听处理系统的不同信息来提高事故检测鲁棒性以及提供更多的事件描述. 最后利用来自伦敦和巴黎的现场测试验证了该系统的性能. 本文是以欧盟的 PRISMATICA 项目为基础.

关键词 [Video/audio 算法](#) [智能交通系统](#) [智能摄像机](#)

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## Fusing Visual and Audio Information in a Distributed Intelligent Surveillance System for Public Transport Systems

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### Abstract

Extensive research has been conducted in applying video and audio processing algorithms for improving passenger safety and security in public transport systems. However, due to the complex and intense computations involved in the algorithms, most studies focus only on one aspect of the safety or security issues. In addition, as passengers behaviours and environments are fairly variable and unpredictable, the robustness of some algorithms is still in question and few of the reported results can be applied in all the different scenarios encountered in transport systems. To develop a complete and practical intelligent surveillance system, the EU project, PRISMATICA, is designed to integrate different intelligent detection devices, which includes local camera networks, crowd monitoring devices, intelligent cameras, contactless smart cards, wire less video/audio transmission, and audio surveillance systems, to monitor different safety and security concerns in railways. As different algorithms and techniques are applied in different devices, to fulfil the real time requirement, the PRISMATICA system is designed as a distributed system where each device is a standalone process, and devices are linked and synchronized using a CORBA network. Although the resulting system is capable of monitoring and detecting different events, certain detected events could represent the same incident. In addition, the system could potentially generate too much information for operators to identify and react to incidents straight away. This paper presents a novel concept of fusing different evidences from a distributed visual and audio processing system to improve the robustness of incident detection and to provide more descriptive events. On-site testing is being carried out in London and Paris to validate the performance of this system.

Key words [Video/audio algorithms](#) [intelligent transport system](#) [intelligent camera](#)

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