AN AUTOMATIC DETECTION ALGORITHM OF ABANDONED OBJECTS AND ABANDONER FOR SURVEILLANCE SYSTEMS

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ABSTRACT

Nowadays, in the field of public security surveillance, the issues of abandoned objects and abandoner detection become more and more popular. If the public places are threatened intentionally by the dangerous objects or obstacles on the way of the bus and railway, it will cause lots of society security problems and we should reduce relative risks. Besides, people often leave something in the public region accidentally. For the aforementioned events, institution checks the videos by people to find the abandoned objects and abandoner after events happen. In this paper, we design an intelligent video surveillance to reduce the loading of human resource, enhance the security and reliability of surveillance system.

There are three contributions of this paper. First, this paper proposes a set of features, including the invariant moments and histogram of gradients to detect the abandoned objects more accurately. Second, this paper proposes an analysis of projection vector and estimation of angle to improve the accuracy of the abandoner detection. Finally, a prototype is designed to detect the abandoned objects and their own abandoner.

KEYWORDS: Intelligent Video Surveillance, Abandoned Objects Detection, Abandoner Detection