Multiple objects tracking in a night environment with weak lamplight

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ABSTRACT

As economy is developed year by year, the personal household security is also concerned day by day, how to apply the inexpensive video equipment to monitor the people enter, exit or move in limited space is the emphasis of the researches on computer vision field in recent years. So, constructing an intelligent video monitoring system not only saves the human cost, but also provides the surveillance and warning real time. Now the intelligent video monitoring systems always apply to in the daytime or bright environments, but many criminal actions occur in the dim night. Therefore, this paper is mainly aimed at indoor secured surveillance at night, and uses the inexpensive digital web camera for capturing video frames developing to apply to video monitoring systems at night. In addition to improve insufficient light causing object detected the failure, this system stress to handle multi-object detecting and tracking at night. First of all, frames can be clearer by ameliorated equalization method. Follow,using background subtraction can capture and combine to form fore-object, and judge whether it is the mankind or not. After collecting the features of each fore-object such as colors and position etc.., it can track various moving object by comparing with sustained recording static and dynamical character. Experimental results demonstrate this paper develop the system can effectively track multiple object in the dim environment.

Keywords : intelligent video monitoring system, equalization, background subtraction, multi-object tracking.

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