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### Real-time tracking using edge and color feature (Conference Paper)

Aziz, N.N.A., Mustafah, Y.M. [✉](#), Shafie, A.A., Rashidan, M.A., Zainuddin, N.A.

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#### Abstract

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Visual surveillance system is an important tool used for monitoring a scene in order to detect any suspicious behavior. Recently, due to the increasing number of cameras, most of the researchers have shown more interest on how to track objects across the cameras. However, the existing algorithms that have been proposed by earlier researchers still offer some trade-off. As the tracking accuracy increases, the speed will be affected and vice-versa. Thus, this paper presents a novel approach for tracking moving objects which provides the most optimal trade-off in terms of its accuracy and speed. In this paper, a novel computational algorithm for dominant color to deal with the changes of objects' viewpoints is presented. Though, color cue alone is insufficient to provide a reliable tracking since in realistic environment, specifically outdoors, variation of illumination may affect the object appearance. Additional feature that is invariant to this imaging feature, namely edge is used in this project to compensate with the shortcoming. The tracking performance of the algorithm based on each individual feature and the fusion of the edge and color features are presented. Experimental results show that the proposed algorithm is reliable for real-time operation. © 2014 IEEE.

#### Author keywords

color edge real-time tracking

#### Indexed keywords

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edge

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