Abstract

Modern research demands more mathematical, statistical information and proves on the research topic. Moving Object tracking with mathematical and statistical approaches paves a new modus operandi stirring over the conventional methods. The use of covariance as a detector of object-based image to extract features is a proven approach. An object can be tracked by using the conventional histogram-based depiction model and it is a well known as well as a popular approach. Our proposed methodological model is build up with numerical, statistical and mathematical formulas. To implement them the standard images database collected images are considered. This mathematical model has been enriched in pursuance with covariance-chaser and in subsequently is capable enough to establish its supremacy with an eye to spawn an important algorithm leading to generate improved object-image-tracker (OIMT) method correctly by taking minimal finishing time. With the help of publicly available dataset enormous quantitative estimation is done pinpointing the efficacy of the reachable model. Our model is capable to achieve momentous speeding in human-object-tracking dynamically in an enhanced way and this method is capable to decrease the error for false-tracking in comparison with the traditional histogram-based and other approaches. It is
proved that the accuracy rate based on statistical-mathematical-detection-model (SMDM) is approximately 94.97% as compared to the MDM with 94.3% and the conventional model with 89.1%.

References

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**Index Terms**

Computer Science  
Pattern Recognition

**Keywords**

Human-Object mathematical-detection-model SMDM OIMT HOM covariance-specified-region  
region-of-intensity.