INTRODUCTION
In the past, few studies have been concentrated on predicting land cover changes while moderately considering the imperfect aspect of data [1, 2]. Based on which the imperfection is treated on three levels: The input data, the model and model outputs. However, the propagation of imperfections from one level to another is not well addressed. The change prediction for such tasks is often marked by several types of imperfections which gradually influence the accuracy required to make decisions. However, the source of this imperfection cannot always be resultant from an existing inconsistency, but it may also be contributed to it due to ambiguity and lack of precision [3-5]. Decisions on the land cover could change consequently, and yet those approach was based on sensitivity analysis and imperfection propagation methods but lacks efficient data processing to bring out precise results; such that they did not qualify for the real-time application in surveillance environments. In this study, we present a novel approach to accomplish the automation and efficient image processing for data deduction from scene surveillances.

METHODS
The process of scene surveillance is generally subjected to manual visual references, but in the context of automation it suffers several types of imperfections which affect the reliability of decision about these changes [6, 7]. Although we proposed a new model for automated scene surveillance where a drastic improvement is done over video processing. In earlier models, the surveillance is restricted to object segmentation or requires a hefty chunk of programming for the training of programming modules and yet have bear imperfection related to the input of models and its propagation through models [8, 9]. To simplify this gap between manual surveillance and automated scene surveillance, we have proposed a methodology for video processing that combines the advantages of motion detection, predictability, and objects segmentation simultaneously for adaptive land cover change detection and prediction. The technique also solves the problem of computing the feature sets in massive sequences of images by carrying forward the past feature sets for the consequent image sequence.

RESULTS AND DISCUSSION: This methodology of automated scene surveillance presented in the paper is devoid of constraints such as propagating imperfection. Once, the similar features are transmitted to the prediction model that relies on the changes on the associated cluster points and consequently update the model. The results derived presented in this study shall help boost more reliable decisions by the automated intelligence in military and rescue operations.

ABSTRACT
Objective: Border security surveillance in remote areas are often suffer from low visibility and poor lighting conditions thus, tracking and recognizing the intruder in such a situation is a daunting task. In this study, a fusion technique is presented for enhancing the visibility by merging feature sets from thermal and RGB image sequence.

Method: we have proposed a methodology for video processing that combines the advantages of motion detection, predictability, and objects segmentation simultaneously for adaptive land cover change detection and prediction. The technique also solves the problem of computing the feature sets in massive sequences of images by carry forwarding the past feature sets for the consequent image sequence.

Keywords: Multi-Image fusion, Security surveillance, Motion detection, Position estimation, Prediction.
Fig. 1: Flowchart of the proposed algorithm

Fig. 2: Automated tagging of moving objects from the proposed algorithm

are the operational vector of the paired annotated frames.

Step 5: Idealized LPS (model development) of the above-sequenceized frame of the operational vector of the paired annotated frames is given by,

$$LPS(x,y) = \sum_{P=0}^{P-1} \left( (y_x - y_{\gamma})^{2\gamma} \right)$$

Where \( s(x) = \begin{cases} 1, & \text{if } x \text{ is maximal} \\ 0, & \text{otherwise} \end{cases} \)

Which sets the tagging of the object as shown in Fig. 2 and \( s(x) \) validates the pattern.

Step 6: Send feedback loops to \( \hat{X} \).
CONCLUSION

This methodology of automated scene surveillance presented in the paper is devoid of constraints such as propagating imperfection. Throughout the fusion model for scene change prediction methodology relies on computing membership functions for input features for a given landscape (Fig. 3). Then, these fusing membership functions are evaluated through a sensitivity analysis module to tag, alert and identify the most influential features in the overall scenario. After that similar features are transmitted to the prediction model that relies on the changes on the associated cluster points and consequently update the model. This helps to identify the optimal values of those sets of features that reduce the overall imperfection. Finally, the algorithm explicitly trained itself over the time to take and mold all attributes describing a particular object while considering the optimal values of influential attributes. The implication of this study suggests that the work achieved in this study shall help boost more reliable decisions by the automated intelligence in military and rescue operations.

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