

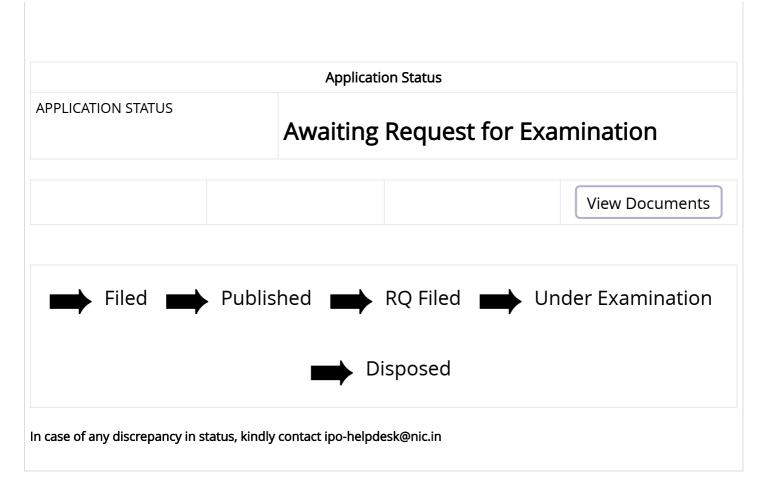
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TITLE OF INVENTION	Intelligent caregiver wireless monitor and motion sensor for safe home system applicable for elderly people
FIELD OF INVENTION	COMPUTER SCIENCE
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(54) Title of the invention : Intelligent caregiver wireless monitor and motion sensor for safe home system applicable for elderly people

(57) Abstract :

As elderly people require care and support to live a healthy and secure existence free of anxieties and worry, it is critical to prioritise older people today. Inadequate knowledge of elderly people's growing behavioural trends at home leads to their relatives' harassment of them. We've developed a feasible home security system for the elderly that can be put in their houses here. We built a smart home security system that incorporates pedestrian monitoring, facial recognition, and fall detection, utilising open-source hardware for cameras and networks. To recognise moving objects, we employ the KNN model context subtraction method in conjunction with the open source OpenCV library and combine it with hog-svm to construct a pedestrian tracking module. To extract facial characteristics, a trained vggnet-16 neural network model is employed, followed by the development of a face recognition module suitable for international alarm intrusion. On the basis of the original openpose, the caffer model was modified to the mobilenet model for human motion recognition at 18 key places on the body trunk, information on the location of six key points was gathered, and the role of fall detection was realised by integrating the SVM classifier. By integrating the GSM module, the details of the elderly man's residence and fall would be communicated for the first time to the elderly man's family members, who can completely ensure the elderly man's safety. According to our experiment, face recognition's fall behaviour recognition performance is strong; the face recognition rate can reach 85 percent, the fall behaviour recognition rate can reach more than 90 percent, and the fall false alarm rate is less than 10% for strangers and elders. As such, the recommended strategy should be applied in practise.

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