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(57) Abstract :

A system and a method using Geographical and Semantic spatial-temporal Network (GSNet) (102) for detecting presence of gun in complex scenes. The Geographical and Semantic spatial-temporal Network (GSNet) (102) comprises a plurality of dense blocks (106) to receive the at least one input image and connected to an at least one of small attention network (108) Each one of the small attention networks (108) is used for both spatial attention and channel attention. An at least one of transition layer (110) having one convolution layer (112) to reduce the size of output feature map and the convolution layer (112) imposes weight to a local patch which are relevant to the scene. The output feature map is inputted to an at least one of enhancement classification layer (116) and output (R) to a softmax classifier (118) to provide two output (120a, 120b) which displays the presence of gun (120a).

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