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(57) Abstract :

The automatic penalty device comprises a camera to capture video of a player and goal area; an image sequencing unit to transmute captured video into a set of frames; a pre-processing unit to remove noise from the set of frames and augment the frame's precision upon converting RGB format frames into HSV format frames; a background removal unit to separate foreground object upon removing background thereby a DPHE is implemented to the extracted frame for CE and highlighting the frame quality; a motion estimation unit to detect moving objects; an object tracking unit to track the moving object on the video frames; a feature extraction unit to extract a set of features; a RBF-FDLNN classifier to detect a player from the moving objects; and a control unit to activate a football shooting machine for shooting a football in a goal post by dodging the player.
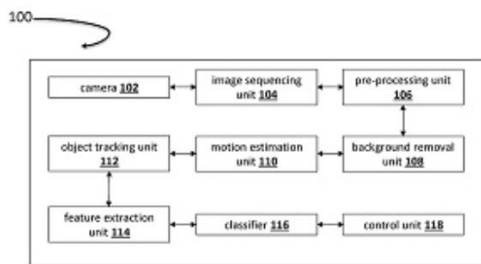
Figure 1

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