

METHOD AND APPARATUS FOR BACKGROUND DETERMINATION AND
SUBTRACTION FOR A MONOCULAR VISION SYSTEM

Abstract of the Disclosure

5 A method and apparatus for producing a
background image from a plurality of images of a scene and
for subtracting a background image from an input image are
described. A background image is produced by dividing an
image (40) into subimages (42), acquiring reference
10 subimages (48) for each subimage location and comparing
subsequent subimages with the reference subimage to
determine if any objects have passed between the reference
subimage and the video camera (22) that acquired images.
When objects have passed between the reference subimage
15 and the video camera (22), the reference subimage is
designated as background and stored in a background image
(50).

 Background portions of an input image can be
removed or their intensity diminished with a background
20 image. Foreground weights can be determined by comparing
the difference between a background image and an input
image. To the extent that corresponding pixels are the
same, the pixel is given a low foreground weight,
indicating that the pixel is a background weight. The
25 background subtraction method can further employ a
weighting curve (70) to take into account noise
considerations. The foreground weights are then applied
to an input image to diminish or remove pixels in the
background.

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