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## TITLE

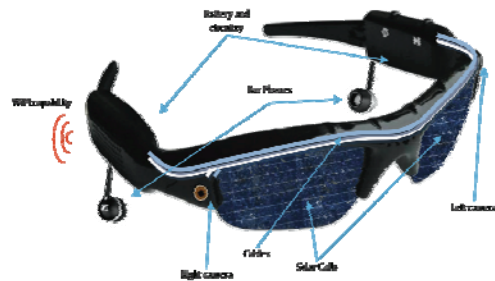
Low Power, Real Time, Stereoscopic Vision System

## INVENTORS

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## DESCRIPTION

Stereo Vision is a part of computer vision system that uses two slightly different images taken by two cameras to detect the depth of the scene in front of the cameras. Usually a depth map image is obtained as gray level image: the objects close to the camera appear whites, while the objects far from the camera are completely blacks. The objectives of this invention are to provide both real time depth map computation and low power consumption to achieve a portable stereo vision system suitable for autonomous mobile robots and wearable self powered stereo vision systems for blind people.



## APPLICATIONS

The main advantage is the lightweight low power system that can be developed by using the low power high computing power processor. The developed algorithm is specifically tailored for low power and high computing performances. The power consumption of the module used to compute depth map (<75mW) well matches the power offered by commercial small solar cells (120mW).

## KEYWORDS

stereoscopic vision, artificial vision, real-time, low-power, virtual reality, augmented reality

## BIBLIOGRAPHIC DATA TO2011A000174

Disposizione circuitale multiprocessore per l'esecuzione di un algoritmo di visione stereoscopica e sistema di visione stereoscopica ed elusione di ostacoli per robot mobile

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