A New Method For Improving 3-D Depth Perception

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Technology description

The ability to see depth is a key visual function, as three-dimensional vision is used to guide body movements. Although many visual cues are used to infer spatial relationships, depth perception relies primarily on stereopsis, or the perception of depth based on differences in the images in the two eyes. More than 5% of the US population, however, is unable to see in three dimensions due to stereo-blindness and stereo-anomaly. Without depth perception, basic activities such as catching a ball or driving a car are not possible. Current therapeutic methods to address this issue include a set of eye-training exercises that aim to equalize the input from the eyes to the brain, which are collectively called orthoptics.

Researchers at UC Berkeley have developed an orthoptic method to train stereo depth perception. This method includes devices and systems for implementation, and it can be used in the home.

Publications

Relieving the attentional blink in the amblyopic brain with video games

Mechanisms of recovery of visual function in adult amblyopia through a tailored action video game

Application area

Orthoptic method to improve depth perception

Advantages

Training system that allows adjustments tailored to individuals
Interactive
Can be used in the home

Institution

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