



Autofocus glasses developed by engineers at Stanford can automatically correct presbyopia | Photo source Stanford/Robert Konrad

GLASSES THAT AUTOMATICALLY CORRECT VISION

 HEALTHCARE & WELLBEING

Autofocus glasses change automatically to correct vision as eyes move

Spotted: A team of researchers at Stanford University, led by electrical engineer Gordon Wetzstein, has developed a pair of glasses called autofocals. They offer a high-tech solution to age-induced eyesight problems.

The prototype glasses contain fluid-filled lenses that bulge out and thin as the field of vision changes. They use eye-tracking sensors to triangulate where a person is looking. Software uses the eye-tracking data to keep the lenses in constant and perfect focus.

Tests of the prototype on people with a common type of age-induced far-sightedness, called presbyopia, determined that the autofocus lenses performed better and faster than other types of lenses. The prototype is bulky and heavy and looks a bit like something from a low-budget sci-fi movie, but the next step will be to downsize the technology and make them more stylish.

Wetzstein's lab did not develop the autofocus lenses and eye-trackers. The team became aware of them while working on vision systems for virtual and augmented reality. However, they did have the insight to put them together and develop the software to allow the glasses to focus automatically.

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Takeaway:

As we age, our eyesight often grows worse. For those with presbyopia, the lens in the eye can become stiff and have trouble focusing on close-up objects. The normal solution is to either wear reading glasses, which need to be taken off to see at a distance; or progressive lenses, which require the wearer to move their head to focus properly. At Springwise, we have seen other eye-trackers used to identify **dyslexia** in children and to monitor the reactions of **television viewers**. Now, they may be used to help the estimated 1 billion people around the world with presbyopia.