CAN ARTIFICIAL INTELLIGENCE HELP MY HEARING?

WIDEX

SOUND LIKE NO OTHER

CAN ARTIFICIAL INTELLIGENCE HELP MY HEARING?

Artificial Intelligence, or AI, has been helping scientists solve problems for over half a century. But it has only recently begun to gain momentum in helping solve problems in our daily lives through real-world applications.

By helping us solve problems, AI makes our lives better in many ways. In fact, it's already translating languages, preventing crimes, and even saving lives by helping doctors diagnose skin cancer with higher accuracy than ever before.* Hearing aids have been using AI for a while, and in this booklet, we'll go into more detail about how AI is changing hearing aid technology for the better.

*Study by Kunio Doi, PhD, professor of radiology at The University of Chicago.

AI IS ALREADY HERE, AND ALREADY HELPING

When it comes to hearing aids, AI can help users solve many problems. It helps to think of AI as something that does the heavy lifting for you in terms of helping you hear the way you want in a given situation.

Other examples from everyday life include your GPS, which asks you where you want to go and how you would like to travel to plan your route for you. GPS will even direct you as you travel and adapt the route if you change your mind, automatically, so you can concentrate on the road.

And think about how your streaming service recommends shows it thinks you'll like. It does that by analysing what you've previously enjoyed and compares that with preferences of other viewers from around the world to instantly make insightful recommendations about what to watch next.

AI in hearing aids does the same thing. But did you know that there are many forms of AI?

LET'S TALK
MACHINE LEARNING

Lars Maaløe
CTO of CORTI and adjunct associate professor
at Technical University of Denmark

Lars Maaløe has a PhD in AI but prefers to use the term 'machine learning'.

He says: "Machine learning is a better way of explaining the use case. In this case, it's simply feeding a large data set into a computer and having the computer learn from the data in order to predict something."

So let's say you want to teach a computer what a dog looks like. You would 'train' it by showing it lots of pictures of dogs until it's 'learned' all the characteristics and traits. It then uses that learning and applies it to define things by itself, and eventually, predict them.

MACHINE LEARNING IN HEARING AIDS

Lead Audiologist for Widex Oliver Townend explains AI is nothing new in hearing aids: "Hearing aids have long had the ability to detect changes in the environment and then select a different sound profile. Even though these intelligent systems had their advantages, they still needed to follow some pre-programmed instructions about the sound profiles they could choose.

"But today, with machine learning, we're taking away the need for complex controls and limited sound choices, guiding the user more intuitively to their own preferred sound."

The key technology is found by selecting **My Sound** via your smartphone app. The AI solutions found here are built on two simple principles: using real-life sound preferences to find the right sound profile in the moment; and then using sound profiles of users around the world to make intelligent sound profile recommendations faster than ever before.

Oliver Townend
Lead Audiologist, Widex

MY SOUND:
AI SOLUTIONS TO
FIND YOUR SOUND

One way to find your sound is to choose one of the almost instant sound recommendations you receive via **My Sound**. These recommendations are a result of the AI analysis of the listening preferences of hundreds of thousands of users all over the world.

An even more individual sound setting can be found in another way, in just a few more steps, by letting our AI algorithm ask you to compare sound samples in the moment. This way it can learn exactly what sound preferences you have, wherever you may be.

We use machine learning to learn what users want in real life and we use machine learning again to process the data created by all these user experiences and deliver more immediate recommendations.

As Oliver explains: "Almost instantly, a user in the heart of New York, for example, can benefit from the work done by users all around the world. We're leveraging real-life data for real people – assisted by a smart AI algorithm. Combining the user and AI helps us bypass a lot of obstacles and lets people steer their own hearing in a way that feels very intuitive. Two amazing AI applications in the palm of your hand to help you find a better sound in the moment."

WHAT NEXT FOR AI AND HEARING AIDS?

AI will get even smarter over time as humans continue to build on the technology. But AI will also continue to need humans to give input and keep it up to date, and the most successful applications are ones that pair artificial intelligence with human intelligence.

We'll leave the last word to Oliver: "Until we can read someone's mind, we'll always have to ask them: is this the sound you want, or is it more like this?

"Where we may end up is allowing the AI to adjust the settings for the user. But generally, we don't believe we need to add a lot more. The fact is, it's incredibly powerful already. Being able to take people's settings and pass them forward to other users is already a huge leap into the future."

CAN I GET AN
AI-POWERED HEARING AID?

Your hearing care professional knows your hearing and your needs and will be able to recommend the best AI-powered hearing solution for you.

Find your local hearing care professional here:

SHOP FINDER

Dive deeper into AI in hearing aids in our podcast here:

WIDEX PODCAST

At Widex we know that hearing loss is complicated. Every case is individual, every solution unique. That's why we continuously search for the most natural and personalized solutions for each individual hearing loss.

WIDEX

SOUND LIKE NO OTHER