

What's next



Enterprise

Nuance AI enables Telefónica to prioritize customer service for seniors by the sound of their voice

Brett Beranek

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I'm thrilled to share that the Security & Biometrics team at Nuance, in the context of the pandemic, [rapidly innovated and delivered novel AI technology to Telefónica, enabling seniors to receive prioritized customer service](#). How did we do it? Prior to the pandemic, we had the

ability to differentiate adults from children by analyzing their voices as they spoke, either to a virtual assistant or a live customer care agent. The reason we developed this technology was to enable organizations to apply different privacy policies for children, as is required in many jurisdictions. Then the COVID-19 pandemic hit, which disproportionately affected seniors. Telefónica asked Nuance if we could identify seniors as they called into their contact center for customer care. Our response was “we’ll find a way.”

Nuance is well known for being the global leader in the [field of voice biometrics](#), and as you’re reading this, you can probably think of a bank, a government agency or a telecom provider that you do business with that validates your identity by the sound of your voice. The concept that each person’s voice is unique is now well understood and has allowed organizations around the world to eliminate those pesky security questions in the contact center, as well as to secure interactions with virtual assistants. The challenge Telefónica brought to Nuance was a bit different, in that the idea was not to identify a specific individual, but rather a group of people that had a common trait – being 65 or older.

Our research team leveraged our existing age detection AI algorithms and retrained them on two sets of data, voices of individuals below 65 and voices of individuals 65 and older. Although detecting children’s voices is intuitively straightforward, even to the human ear, seniors pose a greater challenge. Can the human ear differentiate between a 50-year-old and a 70-year-old? Most of us probably couldn’t with any reasonable degree of precision. Yet, our latest generation of AI voice algorithms are able to detect over 1,000 characteristics of the human voice, far more than a human could. As we trained the deep neural network-based AI algorithms, they honed-in on a subset of these characteristics that are affected in a predictable way as we age. Ironically, our voice biometrics algorithms were trained to ignore these subtle variations in the past. The reason was that we wanted to ensure that whether you were 20 or 80 years of age, our ability to identify you by your voice was unaffected. You can read a [previous blog that I published](#) on this topic back in 2017. Now, we turned this logic upside down and specifically focused on this subset of characteristics to identify seniors.

Within weeks, we went from ideation to production deployment. Today, as seniors call into the Telefónica customer care line, they are fast-tracked for priority service. I am extremely proud of the team at Nuance that made this happen – motivated by the desire to do good, they proved that anything is possible.

For more information, read Nuance’s official [press release](#) announcing our deployment at Telefónica.

Tags: [fraud detection](#), [Gatekeeper](#), [Telefónica](#), [Voice Biometrics](#)



About Brett Beranek

Brett Beranek is responsible for overseeing every aspect of the security and biometric business at Nuance. Prior to joining Nuance, he has held over the past decade various business development & marketing positions within the enterprise B2B security software space. Beranek has extensive experience with biometric technologies, in particular in his role as a founding partner of Viion Systems, a startup focused on developing facial recognition software solutions for the enterprise market. Beranek also has in-depth experience with a wide range of other security technologies, including fingerprint biometrics, video analytics for the physical security space and license plate recognition technology. He has earned a Bachelor of Commerce, Information Systems Major, from McGill University as well as an Executive Marketing certificate from Massachusetts Institute of Technology's Sloan School of Management.

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