



interspeech 2018

September 2-6, 2018
Hyderabad International Convention Centre
Hyderabad, Telangana, India

Making some noise . . .

PhD Candidate John Novak (top) and Prof. Kenyon's paper "Effects of User Controlled Speech Rate on Intelligibility in Noisy Environments" was nominated for INTERSPEECH 2018, in Hyderabad, India this September.

EVL researchers land INTERSPEECH nom

"What's that? I can't hear over the background noise."

PhD Candidate John Novak and Professor Robert Kenyon set out to address the issue of helping people understand speech better in difficult situations by developing computerized tools customized to user needs with their research paper, "Effects of User Controlled Speech Rate on Intelligibility in Noisy Environments."

Their paper was one of twelve nominated out of hundreds of accepted papers and over 2,500 submissions for INTERSPEECH 2018 being held in Hyderabad, India September 2-6. INTERSPEECH is the world's largest and most comprehensive conference on the science and technology of spoken language processing.

Novak explained their research in more detail. "The difficult situation is a type of background noise called 'cocktail party noise,' which is exactly what it sounds like: multiple people talking in the background of a target voice," he said. "The computer mediated tool was a method of artificially slowing speech without causing distortion, especially without dropping the pitch of the voices. This is something that talkers do naturally [in addition to speaking louder] to help their listeners, but we wanted to put some control in the hands of the listener. We believe this is very important, although very difficult to achieve."

The nomination was a surprise for Novak. "I was as confident about this as I've been about any other submission but being nominated for a best student paper award never even entered my mind," he said.

Besides the surprise of being nominated, Novak was especially grateful for the support he has received from "various mentors, advisors, and sounding boards I've found here at UIC including most especially Professor Robert Kenyon and everyone at the Electronics Visualization Lab, and Professor Valeriy Shafiro, an audiologist at Rush University, who got me interested in this line of

research in the first place. And of course the many volunteers and test subjects who have taken part in these experiments," he said.

Novak will present his research on September 2nd at the beginning of the conference in hopes of landing a best student paper award. Regardless, Novak already sees the entire experience as a win already.

"I have only even been outside the United States once, before, so I am very excited about the trip," he said. "It's a working trip, so I am looking forward to workshops, renewing acquaintances, and putting faces to more of the researchers I've been in contact with mostly through e-mail."

"Effects of User Controlled Speech Rate on Intelligibility in Noisy Environments"

John Novak (PhD Candidate)
& Robert Kenyon, PhD

Abstract

"Talkers intentionally producing high-intelligibility speech for listeners in challenging situations often reduce their speech rate. This study affords listeners fine-grained control over the playback rate of a desired speech signal in varying levels of background noise, and tests listener intelligibility with their preferred and unmodified rates of speech. We find clear listener preference for decreased rates of speech as background noise increased. However, we also found degraded performance on a speech-in-noise intelligibility test relative to unmodified speech in these same conditions."