

1st Symposium on Security and Privacy in Speech Communication (SPSC)

Virtual, November 10-12, 2021

Speech is becoming an increasingly important means for human-computer interaction with numerous deployments in biometry, forensics and, most prominently, information access through virtual voice assistants. Alongside these developments, the need for robust, secure algorithms and applications emerged at the forefront of speech-based research to guard the user's data security and privacy.

Speech and voice characteristics are media through which we express our identity as members of communities, while also holding deeply intimate and embodied meanings within our relationships to self and to those we are close to. With voice and speech regarded as deeply personal and communal identity bearers on the one hand, and on the other hand, viewed as digital resources that may be reimagined and reengineered as products and tools: How might researchers and practitioners bridge the gap between social perceptions and their technical counterparts with respect to what it might mean for our voices and speech to be secure and private?

The first edition of the Symposium on Security and Privacy in Speech Communication (SPSC Symposium 2021) aimed at laying the first building blocks required to address these questions. It brought together researchers and practitioners across multiple disciplines – more specifically: signal processing, cryptography, security, human-computer interaction, law and anthropology.

For the first – and hopefully not the last – edition of this event, we have more than 50 participants from all over the world. The three keynote speeches covered different perspectives on the topic: Joscha Bach introduced "From Minsky's Society of Mind to a Society of Minds? Artificial Intelligence, Language Models and Agency", Allison Koenecke (Cornell University) presented "Racial Disparities in Automated Speech Recognition", and Patrick Traynor (University of Florida) discussed "Exploiting the Gaps Between Human and Machine Understanding of Audio: Frameworks, Attacks, and Defenses".

From the various submissions we generated an interesting programme with two poster sessions focusing on "privacy and security using speech and speaker recognition technologies" and "speech privacy, speaker anonymization and legal regulations".

With two more interactive sessions, participants were encouraged to discuss and bring in their different backgrounds and perspectives. In the industrial panel, hosted by Birgit Brüggemeier (Fraunhofer IIS, Germany), the topic was "Talking with Industry: What are real-life challenges for privacy and security in speech communication?". The invited panelists were Björn W. Schuller (Audeering), Raffaele Tavarone (Sonos), Luuk van Hoogstraten (Genius Voice).

The workshop on "How to collect speech data with human rights in mind" is hosted by Tom Bäckström (Aalto University, Finland). It featured four pitch-talks by Catherine Jasserand-Breeman (KU Leuven, Belgium), Ayana Martins (VoiceMed), Khalid Choukri (ELRA/ELDA), and Julia Krüger (Otto von Guericke University Magdeburg, Germany).

We wish all participants new inspirations in a friendly, interactive atmosphere.

October 2021

Ingo Siegert, Karla Markert, Birgit Brüggemeier,
Mircea Giurgiu, Beata Lőrincz, Adrienne Mannov, Adriana Stan