

# What about automated speech recognition (ASR) software (AI)?

## Can it replace the Audio Forensic Practitioner? Can AI be used in isolation?



*Dr. Riaan Steyn explains:*

**SOME PROFESSIONALS ARE OF THE OPINION THAT AUTOMATED SPEECH RECOGNITION CAN BE USED FOR FORENSIC TRANSCRIPTION, FOR LEGAL PURPOSES. FURTHERMORE, THAT ASR ALONE CAN BE USED FOR VOICE RECOGNITION PURPOSES (IN TERMS OF THE FIELD OF FORENSIC AUDIO).**

I am of opinion that this is not true, due to inter alia:

- These automated systems are ipso facto designed by humans and have built-in biases in its training data. Other scientists like Koenecke, et al (2020) and Wassink, et al (2022) are in agreement.
- ASR systems today, even advanced ones, still struggle to process poor-quality or indistinct audio, as well as audio with a lot of background noise and overlapping speech. Note: it is not uncommon for forensic audio (exemplars and evidence) to be of poor quality.
- Forensic analysis requires not only transcription but also understanding the context, speaker identification, and potential manipulations or alterations in the audio.
- ASR systems lack the ability to interpret the nuances and complexities of human communication.
- The use of AI in forensic investigations raises ethical concerns about bias, accuracy, and the potential for misuse.
- Human oversight is crucial to ensure that AI-generated transcripts, and forensic reports are accurate and reliable.

**IT IS ALSO IMPORTANT TO REMEMBER: "AI" CANNOT BE AN EXPERT WITNESS. "AI" CANNOT TESTIFY IN A COURT OF LAW.**

However,

- ASR can be a valuable tool for generating a first draft of a transcript, which can then be reviewed and refined by an expert audio forensic practitioner.
- ASR can be used to extract keywords, phrases, and other relevant information from audio recordings, which can then be used to support forensic investigations.

**WHILE ASR TECHNOLOGY IS CONSTANTLY EVOLVING, IT'S UNLIKELY TO REPLACE THE ROLE OF THE AUDIO FORENSIC PRACTITIONER IN THE FORESEEABLE FUTURE. ASR CAN BE A VALUABLE TOOL TO ASSIST IN THE PROCESS, BUT HUMAN EXPERTISE AND CRITICAL THINKING ARE STILL ESSENTIAL FOR ACCURATE AND RELIABLE AUDIO FORENSIC ANALYSIS.**