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APPLICATION OF DTW ALGORITHM AS A TOOL IN SPEAKER IDENTIFICATION

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ABSTRACT

The paper discusses issues concerning forensic speaker identification and proposes a procedure simplifying the process of speaker identification in the acoustic scope. The idea revolves around methods of dynamic programming, especially the DTW (Dynamic Time Warping) algorithm described further in the paper. Tests which were carried out demonstrated the usefulness of the suggested procedure when trying to determine which vowels and formants are the best differentiating and characterizing a speaker. It was found out, that vowels “a”, “e” and “y” should be prioritized over vowels “o”, “u” and “i” when identifying speakers. Also, the formant F1 can be omitted, as it carries the least information about identity of individual speaker and does not influence much the result of identification.

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