

ZEFIS

EINLADUNG ZUM KOLLOQUIUM

Dr. Michael Jessen

(Bundeskriminalamt, Sprecher-Erkennung und Tonträgeranalyse, KT54)

Forensischer Stimmenvergleich: Der Likelihood Ratio-Ansatz

In forensic voice comparison, pairs of audio recordings are analysed with respect to the question of whether the recordings were spoken by the same speaker or by different speakers. For each single voice comparison case, a wide variety of phonetic and linguistic properties is analysed and a conclusion is reached in with the question of identity or non-identity is expressed in probabilistic terms. Going from the phonetic/linguistic analysis to the conclusion is a wide step that in many ways has to rely on forensic experience. At the same time there is the ambition of formalising and quantifying this step as much as possible. During the past ten years gradual progress has been made in this direction through what has become known as the Likelihood-Ratio (LR) approach. The LR is the probability of obtaining the speech evidence of the unknown speaker (i.e. the criminal) under the hypothesis that it fits into the model of the suspected speaker, divided by the probability of obtaining this speech evidence under the hypothesis that it fits into the model of the general population (the so called UBM = Universal Background Model). Currently, Likelihood Ratios can be calculated based on two branches of acoustic analysis – acoustic phonetics and automatic speaker recognition. After providing some audio illustrations of voice comparisons cases, the talk will explain the notion of the LR, provide examples of how LRs are arrived at based on acoustic-phonetic and automatic analysis, and show how the LR results of a large set of speaker comparisons can be expressed in order to evaluate the speaker-discrimination performance (i.e. the ability of numerically separating same-speaker comparisons from different-speaker comparisons) of a voice comparison feature/method/system.

Mi., 16. Januar 2013, 18:15 Uhr, Raum K1

Prof. Dr. Monika Rathert & Prof. Dr. Jarek Krajewski

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