

da/sec BIOMETRICS AND INTERNET-SECURITY RESEARCH GROUP



- Bachelor Project and Thesis / Master Thesis -Probabilistic Speaker Recognition Classifiers

CASED In the Center for Advanced Security Research Darmstadt (CASED) Technische Universität Darmstadt, Fraunhofer Institute for Secure Information Technology and Hochschule Darmstadt are collaborating in the fast developing field of IT-Security: progressive security solutions are researched, developed and implemented into industrial economy. Read more on www.cased.de.

Motivation & Goal Robust pattern recognition classifiers rely on the analysis of within- and between-class variances. Using probabilistic approaches, speaker recognition classifiers compare characteristic acoustic features, in particular: i-Vectors.

> In current NIST speaker recognition evaluations i-Vectors are supplied for pattern recognition purposes. By estimating likelihoods for target and non-target comparisons, speakers are significantly recognized in order to serve e.g., forensic and biometric applications.



Tasks	 Implement state-of-the-art speaker recognition classifiers Compare results to NIST i-Vector challange Design spoofing attacks
Requirements	 Interest in pattern recognition, machine learning and biometrics Good Programming skills (preferably C++, Julia, MATLAB or Python) but any other language is fine too Basics in Bayesian and probabilistic theory Motivation and creativity
Contact	If you are interested, please contact Andreas Nautsch
	Room: 4.3.08 CASED - Center for Advanced Security Research Darmstadt Mornewegstrasse 32, 64293 Darmstadt EMail: andreas.nautsch@cased.de Phone: +49 6151 16 75182