

Automated human behavior analysis



Overview

- **Description:** The term *automated human behavior analysis (AHBA)* stands for the identification and assessment of human behavior for the purpose of detecting suspicious behavior of persons in public or while personnel interactions, such as surveys. This process is supported by automated processes. The aim of the automated behavior analysis is the detection of individuals with bad intentions (e.g. terrorists) and the prevention of their actions in advance, or uncovering already committed deeds.
- **State of research:** The technology is still largely at the research and development stage. A system currently available on the market is Cogito by the Israeli company SDS (Suspect Detection Systems)[1]. It provides a first rough estimation of a suspected person during questioning. Present research concentrates on the analysis of microexpressions, the detection of the movement of body parts and the detection of suspicious overall behavior.
- **Capabilities:** Automated methods of behavioral analysis are able to make a major contribution to public safety by the early detection of suspicious behavior by individuals or groups.
- **Limits:** Systems should recognize suspicious behavior based on the overall performance and/or vital signs of humans. However, the definition of a normal state is very difficult. On the one hand, there is a wide range of normal human behavior and on the other hand, in certain situations "normal" people are also prone to stress reactions.

Further Information

- **Key player:** Science and Technology Directorate Human Factors/Behavioral Sciences Division (USA) with projects such as FAST, Hostile Intent Detection or VIMS; Swedish Defence Research Agency (FOI) with projects such as ADABT; Federal Ministry of Education and Research (GER) with projects such as ADIS, APFEL, CAMINSENS.
- **Readiness:** AHBA systems are, with few exceptions, still in the research and development stage. Depending on the intended use, implementable systems can be expected in the medium to long term.
- **Users:** Police, Security Personnel, Private Persons
- **Future outlook and forecast:** The core problem of AHBA is the implementation of a suitable algorithm which defines normal human behavior. The difficulty lies especially in the determination of normal behavior within all observed behavior. So far, this question has not been satisfactorily resolved and generally must be answered in dependence of a particular application.
- **Related Technologies:** Predictive Modelling, behavioral biometrics
- **Links:** [1] <http://www.sdscp.com> [2] Meservy T. O. et al., [Deception Detection through Automatic Unobtrusive Analysis of Nonverbal Behavior](#)

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