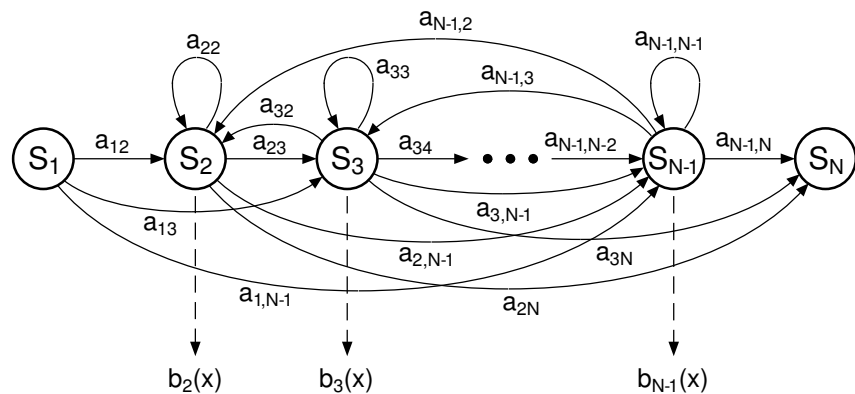


Semester- or Master Thesis

## Text-Independent Speaker Verification with HMM-Based Abstract Acoustic Elements

The speech of an individual may be described by means of a hidden Markov model (HMM) as shown in Figure 1. For this purpose, an HMM needs some 50 to 100 states. With each state a mixture of multivariate Gaussian distributions is associated. The high number of parameters of such an HMM requires enough speech material for the training, i.e. several hours.

Figure 1: HMM with  $N$  states

Various methods have been proposed to allow for a reasonably good training with limited speech material of a few minutes. Most of them are based on the adaptation of a general, speaker-independent HMM.

In this work a new approach with so-called abstract acoustic elements (AAE) has to be investigated. (to be completed)

The project is suited as a semester or master thesis for one or two students of the departments D-ITET or D-INFK.

If you are interested in this project, please contact:

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