REVIEW OF BAYSIAN SPEAKER ADAPTATION BASED ON PPCA

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ABSTRACT

The Probabilistic Principal Component Analysis (PPCA) is a new approach to find the canonical speaker models based on the expectation maximization (EM). This method provides not only the canonical speaker models but also a prior distribution of the model parameters, which can be directly applied to the maximum a posteriori (MAP) adaptation scheme. Some experiments using this technique showed the effectiveness of the PPCA-based approach compared to the other adaptation approaches with a small amount of data.This paper will focus on analysis the underlying theory of PPCA method. The derivation of the adaptation formula based on PPCA model will be investigated. The effectiveness and drawbacks of this approach are presented. At the same time, the content of using this method is described.