

Hybrid SVM/DBN Model for Arabic Isolated Words Recognition

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Abstract : This paper presents a new hybrid model for isolated Arabic words recognition. To do this, we apply Support Vectors Machine (SVM) as an estimator of posterior probabilities within the Dynamic Bayesian networks (DBN). This paper deals a comparative study between DBN and SVM/DBN systems for multi-dialect isolated Arabic words. Performance using SVM/DBN is found to exceed that of DBNs trained on an identical task, giving higher recognition accuracy for four different Arabic dialects. In fact, the average of recognition rates for the four dialects with SVM/DBN was 87.67% while 83.01% with DBN.

Keywords : dynamic Bayesian networks, hybrid models, supports vectors machine, Arabic isolated words

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