

This thesis tackles the problem of error detection in speech recognition. First, principles of recent approaches to automatic speech recognition are introduced. Various deficiencies of speech recognition that cause imperfect recognition results are outlined. Current known methods of “confidence score” computation are then described. The next chapter introduces three machine learning algorithms which were employed in the error detection methods implemented in this thesis: logistic regression, artificial neural networks and decision trees. These machine learning methods use certain attributes of the recognized words as input variables and predict an estimated confidence score value. The open source software “R” has been used throughout, showing the usage of the aforementioned methods. These methods have been tested on Czech radio and TV broadcasts. The results obtained by those methods are compared using ROC curves, standard errors and possible (oracle) WER reduction. Programming documentation of the code used in the implementation is enclosed as well. Finally, efficient word attributes for error detection are summarized.