

ABSTRACT

Thesis: 108 pp., 33 fig., 10 tab., 1 application, 80 sources.

VOICE BIOMETRY, VOICE IDENTIFICATION, SPECTRAL ANALYSIS, KEPSSTRAL ANALYSIS, MEL-CAPTSTRAL COEFFICIENTS, ASP.NET MVC, C #.

The paper investigates the choice of the optimal method and optimal parameters for identifying a person by voice (voice biometrics) and developing a web-service for voice biometrics is presented.

An analysis of existing methods and parameters of the voice biometry is performed. On the basis of this, an optimal method of voice biometrics was determined and a proper method for choosing optimal parameters was developed. The probability of correct recognition of the selected method was estimated.

The algorithms of spectral and cepstral analysis for voice identification (voice biometrics) are presented. The prototype of the recognition system based on the use of the mel-cepstral analysis and the voice signal spectrum energy distribution is created.

Two software products have been created, namely Voice Recognition {desktop application} and Voice Biometrics {Asp.Net MVC technology website}. Both products are implemented using the C # programming language. The programs have a somewhat similar functionality, the main features of which are the ability to record a name, photo, and "voice key" of a person in the database and further identification when re-recording the voice takes place.

The functional and cost analysis of the software product is carried out and the directions of further research are considered.