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## **DEVELOPMENT OF A SOFTWARE TOOL FOR EXTRACTING VOICE MESSAGES IN DEEP TRAINING OF LARGE VOLUMES OF DATA**

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### **ANNOTATION**

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This paper briefly describes the basic principles and related theories of speech recognition system, points out the existing problems of speech recognition technology of artificial intelligence deep learning, analyzes the speech recognition methods of artificial intelligence deep learning, puts forward the optimization methods of speech recognition technology of artificial intelligence deep learning from the aspects of strengthening targeted feature recognition of speech system, repeatedly carrying out simulation training of speech recognition and combining acoustic features with sports features, and forecasts the future prospects of speech recognition methods of artificial intelligence deep learning.

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### **1. Introduction**

The continuous development of information technology has further deepened the research of artificial intelligence and brought many changes to people's work and life. Although speech recognition based on artificial intelligence deep learning has

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made great progress, there are still some shortcomings, and the accuracy of speech recognition needs to be improved[1]. Therefore, the author puts forward the following opinions based on his own experience, so as to promote the sound development of speech recognition in artificial intelligence deep learning.

2. Basic Principles and Related Theories of Speech Recognition System Speech recognition refers to the transformation of speech information involved in speech into data that can be recognized by computer system by means of scientific methods, and then provides a variety of services for machines or people. Speech recognition system usually consists of the following modules: acoustic related model, language related model, decoder and acoustic extraction processing module.

The working principle of the speech recognition system is to collect the characteristic information in the speech information model, build the acoustic model with the help of training or other methods, make it match the speech model, and then use scientific algorithms to decode this kind of information to get the same data information as the original information.

HMM is also called hidden Markov acoustic model, which is used to express the relationship between sequence and hidden state in speech. Nearly half of speech recognition systems will apply HMM, and then establish acoustic model. Its structure diagram is shown. In essence, HMM is a probabilistic model, which uses parameters to represent random statistical states and characteristics, and is mainly composed of random function HMM and fixed state number HMM.

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Because HMM can analyze the local smooth characteristics of speech and the overall stable characteristics of speech, it can create corresponding sound models according to the time series signals of speech, so HMM is widely used in acoustic.

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