

The topic of this thesis is to implement efficient decoder for speech recognition training system ASR Kaldi (<http://kaldi.sourceforge.net/>). Kaldi is already deployed with decoders, but they are not convenient for dialogue systems. The main goal of this thesis to develop a real time decoder for a dialogue system, which minimize latency and optimize speed. Methods used for speeding up the decoder are not limited to multi-threading decoding or usage of GPU cards for general computations. Part of this work is devoted to training an acoustic model and also testing it in the "Vystadial" dialogue system.