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Recent Advances of IBM s Handheld Speech Translation System

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Recent Advances in the processing capabilities of Personal Digital Assistants (PDAs) have enabled the implementation of an end-to-end speech translation system on these devices. We have presented a bidirectional speech-to-speech (English and Chinese) translation system, which is hosted on a PDA running embedded Linux. Our Multilingual Automatic Speech-to-Speech Translator (MASTOR) system includes an HMM-based large vocabulary continuous speech recognizer using statistical n-grams, a translation module, and a multi-language speech synthesis system. This paper describes our recent efforts to develop a bi-directional English and colloquial Arabic speech-to-speech system on a device running the popular Windows-CE operating system. We have created completely new translation modules and introduced a fast adaptation scheme for a new speaker or environment. In addition, the componentization of system modules speeds up the development of a new speech-to-speech system.

Full Paper

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