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Author	SADAOKI FURUI
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Keynote 2

ASR for Resource-Deficient Languages

Prof. Sadaoki Furui

Department of Computer Science

Tokyo Institute of Technology

More than 6000 living languages are spoken in the world today. However, automatic speech recognition (ASR) systems have been built only for a small number of major languages, such as English, Japanese, French, German, Chinese, Italian, and Arabic. Most other languages are resource-deficient, having no database or only sparse databases. In addition, every language has its own specific acoustic as well as linguistic characteristics that require special modeling techniques. Therefore, it is very important to develop general techniques for building ASR systems for resource-deficient languages. This talk presents our experiences in regard to building ASR systems for the Icelandic, Thai and Indonesian languages. For Icelandic, we have introduced a WFST-based ASR system which incorporates a language model (LM) built using a small amount of task-dependent text, an English-to-Icelandic machine translation model, and an English LM. For Thai, since there is no word boundary in the written form, we have proposed a new method for automatically creating word-like units from a text corpus, and to recognize spoken style utterances we have interpolated transcript-based and newspaper-based LMs. For Indonesian, in order to solve the problem of a large variation of proper noun pronunciation, we have applied proper noun-specific adaptation in acoustic modeling.

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