Learning Speech Translation from Interpretation

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Abstract:
Globalization spurs the need for cross-lingual verbal communication. This is reflected in ongoing research in the field of speech translation. However, the development of deployable speech translation systems still happens only for a handful of languages. Prohibitively high costs attached to the acquisition of sufficient amounts of suitable training data are one of the main reasons for this situation. A new language pair or domain is typically only considered for speech translation development after a urgent need for cross-lingual verbal communication arises. While massive data collections for system development are conducted communication has to rely on the help of interpreters. This talk will describe an alternative to this time-consuming and costly parallel effort. We train speech translation systems directly on audio recordings of interpreter-mediated communication scenarios. By employing unsupervised and lightly supervised training techniques, we are able to omit most of the manual transcription effort and all of the manual translation effort that has typically characterized speech translation system development.

About the Speaker:
Matthias Paulik is a member of Cisco’s Speech and Language Technology (C-SALT) team, where he conducts product driven R&D. Dr. Paulik's work is focused on (a) large vocabulary continuous speech recognition (b) phrase-based statistical machine translation and (c) the combination of the former two technologies for the purpose of automatic speech translation. He is especially interested in methods for training the statistical models involved in modern automatic speech translation systems in an unsupervised or semi-supervised manner. Dr. Paulik received his Dipl.-Inform. degree (2005) and his doctoral degree (Dr.-Ing., summa cum laude, 2010) in Computer Science from Karlsruhe Institute of Technology in Germany. During his doctoral studies (2005-2010) he worked as a research assistant at Carnegie Mellon University in Pittsburgh. Dr. Paulik is one of the developers of of "Jibbigo": a speech-to-speech translation software for the iPhone.