

Speech Translation – Bridging the Language Barrier

Development of first prototypes for simultaneous translation of lectures and speeches

The Interactive Systems Lab (ISL) at KIT has developed first prototypes for the simultaneous translation of lectures and speeches from one language into another. In these prototypes the audio of the lecturer is recorded, automatically translated in real-time, and presented to the audience in different ways.

With growing international information structures and affordable international travel, the dissemination of knowledge in a globalised world becomes increasingly possible – if the language barrier can be overcome. Lectures and personal talks allow the speaker to tailor his presentation to specific audiences, and in return allow the listeners to get access to the information relevant to them through interaction with the speaker. This also fosters the cooperative creation of ideas and generates collaborations and ties between distant units, e.g. scientific laboratories or companies. At the same time it is desirable to allow the participants to express themselves in their native language. Because no matter how intensively one studies a foreign language one will always be more expressive, more fluent, and more precise in one's native tongue. For this problem human translators are currently the only solution. But they are often not affordable, so that many lectures just cannot be translated. However, the use of modern machine translation techniques can potentially provide affordable translation services to a wide audience, making it possible to overcome the language barrier for almost everyone and for various options for usage.

Therefore, first prototypes for simultaneous translation of lectures and speeches for translations from English into Spanish have been developed, in which the audio of the lecturer is recorded, automatically translated in real-time, and presented to the audience in different ways: as subtitles on the screen, spoken through a targeted audio device, or via the internet.

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Multilingual Output Modalities

It is of utmost importance that the translation output is delivered in the most convenient and appropriate way. As the internet access is possible more or less everywhere, a web based frontend for the lecture translation system was implemented. The written translation is presented to the user as well as its synthesis.

By just opening a webpage everybody can follow the lecture using his own laptop. Furthermore the web based frontend enables an easy delivery of the translations to remote users following the lecture from all over the world.

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