

Machine Translation

Computational linguistics deals with the modeling of any natural language from a statistical and computational perspective. There are many sub strands which work with the different mediums of language, such as spoken or textual, and work in many different ways, such as processing language or synthesizing it. One particular sub strand of computational linguistics is known as machine translation, which is involved in using computer software to translate between one natural language to another. Some translation methods can involve just the simple substitution of one word for another, while others are a lot more complex and take the context of the language and the usage situation into account.

Machine translation as an idea has been around for a very long time, even back in 1629 Descartes proposed the use of a universal language. Even earlier than this philosophers and poets have dreamed of a unifying principle that could knit the different cultures and languages of the world together. Indeed the Biblical account of Babel was a city that united humanity with a single language. The Bible also says that it was God who dismantled this experiment, confusing our languages and spreading people to all corners of the Earth; and whatever your belief system may be, this is the situation that we find ourselves in today. The actual practical use of computers to translate natural languages was proposed in 1946 and made successful in the 1950's with several attempts including the famous Georgetown experiment in 1954.

{mosgoogle center}

Machine translation software is becoming more important in the modern world due to new markets opening up in non English speaking countries. China and India are the two biggest examples of cultures with a big appetite for technology which require the use of machine translation applications and processes. Some Asian languages are so fundamentally different to English that a deep understanding of their natural language needs to take place before any kind of translation can occur. There has been a lot of research put into these problems in recent years and artificial intelligence programs now exist that can help in the understanding of natural human languages.

The translation process involves a two step procedure of first decoding the source material into a meaningful text and then re-encoding it into the target translation language. As mentioned above, the first attempts used simple substitution while modern applications are a lot more sophisticated. Software development needs to combine Linguistic rules and artificial intelligence with the knowledge and experience of a real native speaker of the target language in order to be truly successful.

There are a number of machine translation approaches and each has its benefits in particular situations. The future of these connective applications will lie in a combination of all approaches working together with a knowledge of the natural target languages themselves. Machine translation is crucial in the modern world and will become more of a major industry as these individual approaches are customised with a particular scope and refined for a targeted marketplace.