Machine Translation of Basque IXA Group (Special supplement: Making the foreign one⌐s own)

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Abstract

Machine Translation is one of the greatest challenges ever faced by Artificial Intelligence and Linguistic Processing. In the research group IXA, as part of our work on the automatic processing of Basque, we also study Machine Translation through the application and adaptation to Basque of innovations that arise in the field. We have focused primarily on the creation of systems that translate from Spanish into Basque. Nevertheless, we have also developed systems of translation from Basque into Spanish, as well as systems that deal with pairs of languages like Basque and English.

The techniques of Machine Translation currently in use differ greatly from those used in the early years, and have evolved from Rule-Based Machine Translation to Neural Machine Translation, by way of Statistical Machine Translation. In this article, we describe the operation of these translation techniques, pointing out the advantages and disadvantages of each. We complete each section with an explanation of the work carried out and results obtained in Basque.

Finally, we present various methods for measuring the usability of Machine Translation. In the major languages, post-editing of Machine Translation has long been used as a way of speeding up the labor of human translators. Its use has not carried over into Basque however, largely because the quality of the translations is lower. Nevertheless, studies carried out by the IXA Group demonstrate that this type of translation can be useful.

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