

# A Hybrid Model for Enhancing Lexical Statistical Machine Translation (SMT)

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## Abstract

The interest in statistical machine translation systems increases currently due to political and social events in the world. A proposed Statistical Machine Translation (SMT) based model that can be used to translate a sentence from the source Language (English) to the target language (Arabic) automatically through efficiently incorporating different statistical and Natural Language Processing (NLP) models such as language model, alignment model, phrase based model, reordering model, and translation model. These models are combined to enhance the performance of statistical machine translation (SMT). Many implementation tools have been used in this work such as Moses, Giza++, IRSTLM, KenLM, and BLEU. Based on the implementation, evaluation of this model, and comparing the generated translation with other implemented machine translation systems like Google Translate, it was proved that this proposed model has enhanced the results of the statistical machine translation, and forms a reliable and efficient model in this field of research.

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