

**GENERATING INTERLINGUA FROM ARABIC PARSING  
TREE**

By

**Rania Ahmed Abdul Azeem Abdul Rahman Abul seoud**

A thesis Submitted to the  
Faculty of Engineering at Cairo University  
In Partial Fulfillment of the  
Requirement for the Degree of  
MASTER OF SCIENCE  
In  
COMPUTER ENGINEERING

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1/2005

FACULTY OF ENGINEERING, CAIRO UNIVERSITY

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## **ABSTRACT**

**This work presents a preface to an Interlingua Generator from Arabic parsing trees to be used in Interlingual Machine Translation Systems especially between English and Arabic. Automatic Arabic-English translation is still an active area of research since results are not satisfactory. Interlingual machine translation proceeds by first producing a translation in an intermediate language between the source text and the target text. This intermediate language is called *Interlingua*. This work has chosen the KANT project one of the well accepted projects between researches in the field as its base. The KANT system has published its Interlingua along with some corpora of sentences, in Interlingual form. This proposed Interlingua Generator aims to put the Arabic parsing trees into KANT-Like Interlingua.**

**The Interlingua Generator has been successfully implemented on a 128MB RAM PC using SICStus Prolog and C++ (Visual Studio.Net). Its bilingual lexicon is tailored for a sample of technical documents. Representing Arabic parsing trees into KANT-Like Interlingua is governed by a set of structural transformation and mapping rules. In order to evaluate the success of the Interlingua generated three Experiments have been performed using some of the published KANT sentences and other sentences from different domains. In addition, suitable quality evaluation measures as used in the KANT project have been calculated.**

**It is concluded that the Interlingua Generator is promising by observing high quality Interlinguas as compared to the Interlinguas of the KANT sentences.**