Parallelizing Arabic Morphological Analysis: Towards Faster Arabic Natural Language Processing Systems

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Abstract

Natural Language Processing (NLP) has gained a lot of importance nowadays with many applications requiring real-time performance. In order to achieve the real-time requirements, the components of a NLP system should be made more efficient. An important component in any NLP related system is the Morphological Analyzer (MA). In this paper, an efficient algorithm for Arabic morphological analysis is presented and ways for making it more efficient by exploiting parallelism and mapping it onto hardware are described. Such efforts are proven to aid in meeting the real-time requirements. Practical steps for future research are described.