

## OPTIMIZATION OF SPEECH RECOGNITION SYSTEMS THROUGH LINGUISTIC KNOWLEDGE

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### ABSTRACT

*Highly linguistically motivated grammars that are able to capture the deeper structure of language have evolved from the natural language processing community during the last few years. However, the speech recognition community mainly applies models which disregard that structure or applies very coarse probabilistic grammars. The work aims at bridging the gap between statistical language models and elaborate linguistic grammars. The first goal is to introduce precise linguistic knowledge into a medium vocabulary continuous speech recognizer. The second goal consists of investigating the capabilities and limitations of qualitative language models to improve medium vocabulary continuous speech recognizers. A novel architecture is dealt which integrates a non-probabilistic grammar into speech recognition based on a word spotter, an island chart parser for definite clause grammars and a strategy component.*

**KEYWORDS :** *Linguistic Knowledge, Natural Language Processing, Speech Recognition, Speech Recogniser*

**Received:** Nov 10, 2015; **Accepted:** Nov 25, 2015; **Published:** Dec 01, 2015; **Paper Id.:** TJPRC: IJSPSDEC20152