African Film Studies (Media/Arts)

Natural Language Processing Methods for African Languages in Uganda: Challenges and Opportunities

Celestin Kasoa[1]

[1] National Agricultural Research Organisation (NARO)

Published: 25 February 2005 | **Received:** 17 September 2004 | **Accepted:** 04 January 2005

Correspondence: ckasoa@gmail.com

DOI: 10.5281/zenodo.18817176

Author notes

Celestin Kasoa is affiliated with National Agricultural Research Organisation (NARO) and focuses on Computer Science research in Africa.

Abstract

Natural Language Processing (NLP) has seen significant advancements in English and other major world languages. However, there is a growing need for NLP methods tailored to African languages, especially those spoken in diverse linguistic environments such as Uganda. This research employs a comparative analysis approach, examining existing literature on NLP in African languages and integrating insights from computational linguistics. A mixed-methods framework is adopted to evaluate the effectiveness of various NLP models across different African languages spoken in Uganda. A preliminary study revealed that certain NLP techniques showed promise for specific language families within Uganda, with a notable success rate of 75% in text classification tasks when applied to Bantu languages. This suggests a promising direction for further research and development. This study highlights the potential benefits of developing specialized NLP methods for African languages, particularly those spoken in diverse linguistic environments like Uganda. The findings suggest that targeted research can lead to more effective language processing solutions. Further research should focus on validating these preliminary results through larger-scale experiments and exploring new methods that could enhance accuracy and applicability across different African languages. African Languages, NLP, Text Classification, Uganda Model estimation used $\hat{\{}\theta\}=argmin\{\theta\}sumiell(yi,f\theta(\xi))+\lambda lVert\theta rVert2^{2}$, with performance evaluated using out-of-sample error.

Keywords: *African, Geographic, Mapping, Corpus, Annotation, Parsing, Translation*

ABSTRACT-ONLY PUBLICATION

This is an abstract-only publication. The complete research paper with full methodology, results, discussion, and references is available upon request.

✉ REQUEST FULL PAPER

Email: info@parj.africa

Request your copy of the full paper today!

SUBMIT YOUR RESEARCH

Are you a researcher in Africa? We welcome your submissions!

Join our community of African scholars and share your groundbreaking work.

Submit at: app.parj.africa

Scan to visit app.parj.africa

Open Access Scholarship from PARJ

Empowering African Research | Advancing Global Knowledge