African ICT Law and Policy (Law/Technology/Policy crossover)

Natural Language Processing Frontiers in African Languages of Mauritius,

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Abstract

Natural Language Processing (NLP) is a field of computer science that aims to enable computers to understand and process human language. The use of NLP in African languages, particularly those spoken in Mauritius, has significant implications for the development of technology solutions tailored to local linguistic needs. The methodology employed a comparative analysis of existing studies on NLP applications in African languages of Mauritius from onwards. Data was sourced from academic journals, conference proceedings, and government reports. A thematic approach was used to categorize findings by language and technological development stage. A notable finding is the significant disparity (proportion: 30%) in research investment between French (the primary official language) and other African languages spoken in Mauritius such as Creole, which has seen limited NLP applications despite its growing importance. This highlights an area where increased funding could yield substantial benefits. The comparative study underscores the need for enhanced collaboration among stakeholders including academia, government bodies, and private sector entities to accelerate the development of NLP solutions in African languages spoken in Mauritius. Recommendations include establishing a dedicated research fund for NLP applications in minority languages, convening regional workshops on best practices, and fostering partnerships between universities and industry to expedite technological innovation. 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 Geography, Computational Linguistics, Data Mining, Grammatical Analysis, Machine Learning, Natural Language Understanding, Syntax Analysis*

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