

Charting the Landscape of African NLP: Mapping Progress and Shaping the Road Ahead

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Abstract

With over 2,000 languages and potentially millions of speakers, Africa represents one of the richest linguistic regions in the world. Yet, this diversity is scarcely reflected in state-of-the-art natural language processing (NLP) systems and large language models (LLMs), which predominantly support a narrow set of high-resource languages. This exclusion not only limits the reach and utility of modern NLP technologies but also risks widening the digital divide across linguistic communities. Nevertheless, NLP research on African languages is active and growing. In recent years, there has been a surge of interest in this area, driven by several factors—including the creation of multilingual language resources, the rise of community-led initiatives, and increased support through funding programs. In this survey, we analyze 884 research papers on NLP for African languages published over the past five years, offering a comprehensive overview of recent progress across core tasks. We identify key trends shaping the field and conclude by outlining promising directions to foster more inclusive and sustainable NLP research for African languages.¹

1 Introduction

The field of Natural Language Processing (NLP) has undergone significant advancements in recent years. However, languages primarily spoken on the African continent have often been left behind in these developments. Many major large language models—such as Llama3 (Dubey et al., 2024), Gemma2 (Gemma Team et al., 2024), and Anthropic’s Claude Sonnet-3.5 (Anthropic, 2024), do not list any African languages among their officially supported languages, thereby excluding the native tongues of potentially millions of speakers.

Despite this exclusion, NLP research on African languages is far from dormant. In recent years,

¹We release our data and code publicly at <https://github.com/uds-lsv/africanlp-survey>

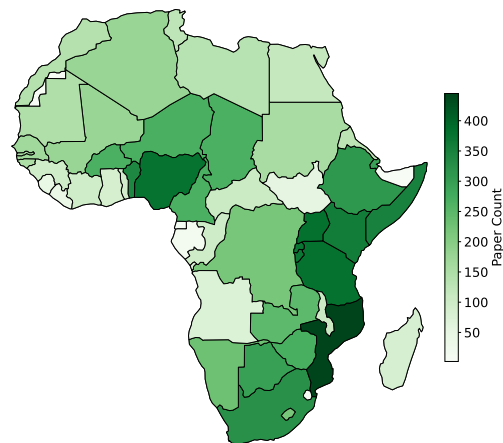


Figure 1: NLP research distribution across Africa by language coverage. Darker green indicate more papers on languages spoken in each country.

there has been a surge of interest in both spoken and written form with the number of publications quadrupling in just five years and spanning a wide range of topics—from natural language understanding and text-to-speech systems to research on ethics, bias, and fairness. This momentum is fueled, in part, by community-driven initiatives, the creation of large corpora, shared tasks, and the emergence of dedicated venues.

While the broader NLP field has acknowledged the importance of supporting low-resource languages in general (Bender, 2019; Joshi et al., 2020; Hedderich et al., 2021; Nigatu et al., 2024), this survey narrows its focus specifically to African languages. Many African countries share common historical, socio-economic, and infrastructural challenges, as well as pan-African research and policy initiatives. At the same time, Africa is characterized by its rich cultural and linguistic diversity (Tchindjang et al., 2008; Ouane and Glanz, 2010). A continent-wide survey is therefore essential to capture both shared challenges and distinct differences in the development of language technologies for Africa.

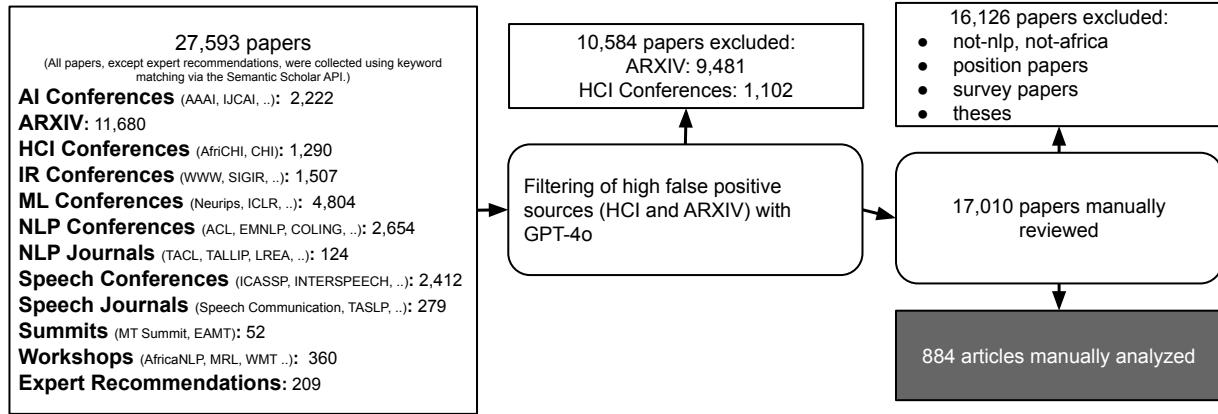


Figure 2: Inclusion flow of the systematic review.

This survey has three primary goals:

1. **Comprehensive overview:** By systematically collecting and annotating literature from over twenty-five venues—spanning core NLP and speech, as well as adjacent fields like human-computer-interaction and machine learning—from the past five years, we provide an in-depth overview of contemporary research on African languages.
2. **Accessible Entry Point:** By organizing this literature by language, task, technology, and theme, we offer a useful resource for both newcomers and experienced researchers newly engaging with African languages, thereby lowering the barrier to entry and encouraging further work in this crucial area.
3. **Identification of Open Issues:** Through an extensive discussion of the current body of work, we highlight critical open issues—such as the imbalance in resources across African languages and the need for non-translated, native-language datasets—which can guide the strategic development of language technologies tailored to Africa.

2 Related Surveys

African languages are usually classified as low-resource languages. In their six-class classification scheme, [Joshi et al. \(2020\)](#) placed most African languages into the classes "left-behinds", "scraping-bys", and "hopefuls" due to limited or non-existent labeled data. Surveys exist for low-resource languages in general, covering common NLP approaches to boost performance in settings with little data ([Hedderich et al., 2021](#); [Haddow et al., 2022](#); [Chen et al., 2023](#)). However, as [Nigatu et al. \(2024\)](#)

point out, the definition of "low-resource" is more complex than just a measurement of data availability, including also the availability of other resources and socio-political factors. This paper therefore focuses specifically on languages on the African continent, which could have substantially different settings compared to low-resource languages in other parts of the world.

Several studies have focused on languages within specific countries, such as South Africa ([Grover et al., 2010](#)), Ethiopia ([Tonja et al., 2023](#)), Kenya ([Amol et al., 2024](#)), Nigeria ([Nwafor and Andy, 2022](#); [Inuwa-Dutse, 2025](#)), and Ghana ([Azunre et al., 2021a](#); [Issaka et al., 2024](#)). These surveys provide insights into the linguistic landscape, document available language resources, and explore computational methodologies tailored to the languages spoken in these countries. By offering a country-level perspective, they contribute to a broader understanding of language preservation and technological advancements within specific national contexts. Beyond country-specific studies, language-specific surveys have been conducted for individual African languages such as Southern Sotho ([Sibeko and Setaka, 2022](#)) and Yoruba ([Jimoh et al., 2025](#)). However, a survey looking at the broader African continent is necessary to uncover both unique and shared challenges of its languages, and chart a cohesive future for building technologies for African languages.

Similar to our effort, the survey by [Mussandi and Wichert \(2024\)](#) provides a tool-centric overview of NLP resources available for African languages. [Keet \(2022\)](#) instead reviews how bootstrapping has been applied in practice to the Niger-Congo ('Bantu') subset of African languages, showing that rule- and grammar-based approaches transfer more

successfully across distant languages, whereas data-driven methods work reliably only for closely related languages. In contrast, [Ikae and Kurpicz-Briki \(2024\)](#) concentrates on bias detection in machine translation for African and European languages. Our work differs by offering a broader landscape analysis of African NLP research, highlighting trends in language coverage, tasks, and research output.

3 Survey Methodology

Literature Collection To conduct a comprehensive systematic survey of the relevant literature, we employ a multi-source approach that integrates automated and expert-driven methods. First, we use the Semantic Scholar API, which retrieves papers by matching query terms against titles and abstracts in its database. The inclusion criteria are “Africa”, the names of the 54 African countries, and 2,290 African languages from the Glottolog database.² These searches are conducted across leading conferences, journals, and workshops in NLP, speech, HCI, and AI, as well as the preprint repository arXiv. The full list of venues is provided in Appendix A. We then augment this dataset with additional relevant papers to ensure the inclusion of influential and high-impact works that the Semantic Scholar API does not capture, adding 209 publications. In total, this process yields 27,593 relevant publications spanning five years, from 2019 to 2024. By combining these sources, our approach ensures a well-rounded literature survey that balances algorithmic discovery with human expertise, leading to a more comprehensive and accurate understanding of the topic.

Filtering The automatically retrieved articles contained irrelevant articles not focused on AI or more specifically, NLP research, especially from HCI venues and pre-prints. To address this, we filtered the papers by prompting GPT-4o to classify whether they were NLP-related based on their title and abstract. Details for reproducibility are provided in Appendix B.

Manual Annotation We manually coded all the extracted papers with a codebook inspired by the ACL 2025 tracks and iteratively refined during the coding process. We identify the languages covered, the NLP tasks addressed, the low-resource

techniques employed, and other relevant themes. In addition, our annotation process included determining whether the paper introduced a dataset and, if so, whether it was released and whether it was cross-cultural or translated from one language to another. We also assessed whether the paper proposed a model and, if so, whether the model was released. We excluded papers on African American Vernacular English (AAVE) and those on spoken English that is not African-accent. We include African-accented variants of European languages because they are part of the linguistic reality of the continent, and handling them well is crucial for making NLP inclusive for Africans. Figure 2 shows an overview of the data filtering process. The resulting publication set contains a total of 884 papers.

4 Analysis Result

In this section we analyze the annotated pool of publications along different dimensions.

4.1 How much do researchers publish?

Figure 3 illustrates the distribution of the papers over the five-year period under review. The number of publications grew significantly—from approximately 57 papers in 2019 to 117 in 2020—continuing to rise and peaking at 232 papers in 2024. We hypothesize that this overall growth is driven by three key factors: (1) increased efforts to develop multilingual language resources, including embeddings and language models; (2) the emergence of community-led initiatives such as MasakhaneNLP,³ EthioNLP,⁴ HausaNLP,⁵ and GhanaNLP;⁶ and (3) the support of targeted funding programs such as Lacuna Fund⁷ and AI4D⁸, which have provided crucial resources for African language research. Furthermore, shared tasks have contributed to this momentum, with one paper each in 2019 and 2020, 11 in 2021, 15 in 2022, 41 in 2023, and 24 in 2024. This upward trend highlights the growing and sustained interest in African NLP research.

³<https://www.masakhane.io/>

⁴<https://ethionlp.github.io/>

⁵<https://hausanlp.github.io/>

⁶<https://ghananlp.org/>

⁷<https://lacunafund.org/>

⁸<https://www.ai4d.ai/>

²Glottolog documents over 3,000 African languages and dialects, but we used only those with an official ISO 639-3 code.

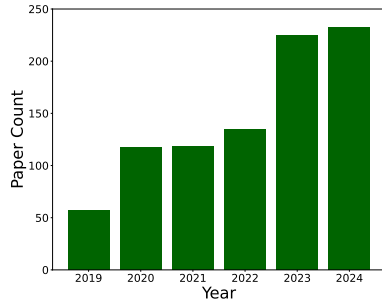


Figure 3: Distribution of papers by publication year.

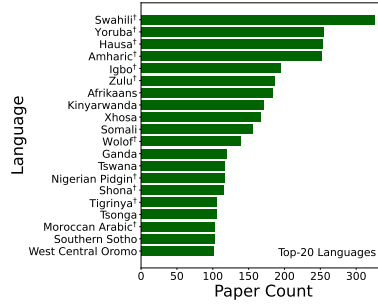


Figure 4: Top 20 languages by paper count;† indicates languages among the top 20 spoken in Africa.

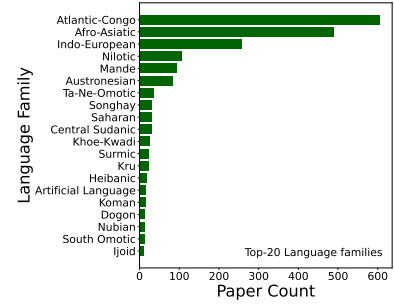


Figure 5: Top 20 language families by number of unique African languages studied.

4.2 What languages do researchers work on?

Given the annotated data, we evaluate all the African languages covered by the publications, using the African languages listed in Glottolog⁹ (Hammarström et al., 2024) as a reference. Our analysis shows that a total of 2,275 African languages and dialects—including dialects of Arabic, creoles, and sign languages from various African countries—have been covered by the papers. However, only about 25% of these languages appear in at least 10 papers, while over 67% were featured in less than 5 papers, highlighting the skewed distribution of language coverage. Figure 4 presents the top 20 languages by frequency, which closely align with the rankings of the most spoken languages in Africa according to LinguaMeta (Ritchie et al., 2024). In particular, 11 of the top 20 languages according to publication counts appear among the most widely spoken languages. However, Afrikaans (7.3M speakers) and other South African languages such as Tswana (6M), and Tsonga (2.5M) appeared among the top 20 languages covered in the papers—demonstrating the significant research efforts dedicated to South African languages despite their relatively lower positions in the LinguaMeta ranking. In terms of language families, Figure 5 shows that Atlantic-Congo languages dominate the papers, followed closely by Afro-Asiatic, with other families receiving much less coverage.

In addition to indigenous African languages, some papers, particularly those focusing on speech also included African accents of widely spoken non-indigenous languages such as French, English, and Portuguese. While some studies clearly

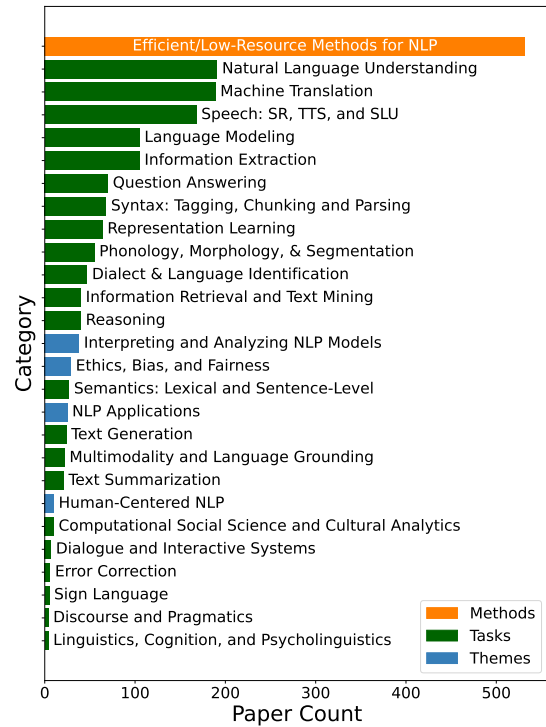


Figure 6: Bar plot of annotated paper categories (papers may appear in multiple categories).

specified the country-specific accents they addressed (Aryal et al., 2023; Afonja et al., 2021; Olatunji et al., 2023b; Hagemeijer et al., 2022a), others were more generic (Shan et al., 2023). There are also research efforts on texts in non-indigenous languages tailored to African contexts, such as AfriSenti (Muhammad et al., 2023) and AfriMed-QA (Nimo et al., 2025).

Furthermore, African languages are often code-mixed (Bandia, 1996), typically with English or other languages spoken within the same region. Our analysis shows that 5.1% of the reviewed articles focused on code mixing, with emphasis on the dialects of the North African Arabic dialects (Hamed et al., 2023, 2024), and South

⁹<https://github.com/glottolog/glottolog-cldf/blob/master/cldf/languages.csv>

African languages (Wilkinson et al., 2020), but also several other cases (Diallo et al., 2021; Muhammad et al., 2022; Ilevbare et al., 2024).

Overall, in terms of continent coverage, Figure 1 shows that every country has at least one language covered, with Mozambique and Uganda leading at 445 and 383 papers respectively. Tanzania, Nigeria, Rwanda, Burundi, Kenya and Somalia also have strong representation, each with over 350 papers. This shows a notable skew in the geographic distribution of NLP research, with certain countries receiving more attention.

4.3 What tasks do researchers work on?

The papers cover a skewed distribution of NLP tasks, with many addressing multiple tasks rather than just one. For instance, a paper that introduces a language model and evaluates it on a named entity recognition task contributes to both language modeling and named entity recognition. Figure 6 shows the distribution of these tasks, and we highlight the 10 major tasks by publications below:

Natural Language Understanding (NLU) is the most common task category. Within this category, multiple subcategories of sequence classification tasks exist, such as text or topic classification (Adelani et al., 2023; Ma et al., 2023), hateful or offensive or abusive speech detection (Thirion et al., 2020), emotion detection (Moudjari et al., 2020; Martin et al., 2022), natural language inference (Lin et al., 2022; Ahuja et al., 2023; Adelani et al., 2025), intent detection (Moghe et al., 2023; Skiredj et al., 2024), slot filling (FitzGerald et al., 2023; Mastel et al., 2023), semantic parsing (Ruder et al., 2023), and sentiment analysis (Diallo et al., 2021; Muhammad et al., 2022; Shode et al., 2023). Notably, around 40% of the NLU papers focus on sentiment analysis. Sequence classification tasks appear to be more common, likely due to the relative ease of creating datasets for them. This is especially true with techniques like annotation projection (Adelani et al., 2023; Ma et al., 2023), which facilitate multilingual data creation when parallel corpora are available. While some works focus on building datasets, others concentrate on developing methods to address these tasks, often through shared task contributions.

Machine Translation (MT), the second most common task category, includes work on bitext mining and alignment (Heffernan et al., 2022; Feng et al., 2022)—especially from web sources—which has enabled the creation of widely used datasets

Task	Datasets
<i>Datasets</i>	
NLU	Taxi-1500, SIB-200, MasakhaNEWS, AfriSenti, AfriXNLI
MT	FLORES-200, AfroLingu-MT, NTREX-128, TICO-19, MAFAND-MT
Reasoning	AfriMGSM, LINGOLY, MGSM
IE	MasakhaNER, MasakhaNER 2.0
Speech	FLEURS, BibleTTS, African Voices
LM	mC4, ROOTS, WURA, GlotCC, MADLAD
<i>Models</i>	
MT	NLLB-200, Toucan, M2M-100, MADLAD
Encoder LM	Serengeti, AfroXLMR{-76L}, AfroLM, AfriBERTaV2
Decoder LM	BLOOM, XGLM, mGPT, AfroLLaMa, InkubaLM
Enc-Dec LM	Cheetah, AfriTeVa V2, AfriMBART, Afri{M,By}T5

Table 1: Examples of 5 representative datasets and models with task categories, sorted by languages covered.

like JW300 (Agić and Vulić, 2019), CCAIined (El-Kishky et al., 2020), and WikiMatrix (Schwenk et al., 2021), despite some concerns about content quality (Kreutzer et al., 2022). Multilingual benchmarks like NTREX-128 (Federmann et al., 2022), Flores (Goyal et al., 2022; NLLB Team et al., 2024), MAFAND-MT (Adelani et al., 2022a), and AfroLingu-MT (Elmadany et al., 2024) have also incorporated African languages. Furthermore, several efforts target specific language pairs (Sánchez-Martínez et al., 2020; Nguer et al., 2020; Adelani et al., 2021b; Azunre et al., 2021b). Much of the work focuses on training and evaluating MT systems, including LLMs, for translation between African and high-resource languages (Adelani et al., 2022a; Elmadany et al., 2024). Furthermore, standard MT metrics like BLEU are inadequate for these morphologically rich languages, leading to the development of embedding-based metrics like AfriCOMET (Wang et al., 2024a,b), though its coverage remains limited.

Speech Processing: Aside from text-based research, there is a substantial amount of work focused on *speech modality*, including automatic phoneme or speech recognition (ASR) (Dossou and Emezue, 2021; Mohamud et al., 2021; Conneau et al., 2022; Sikasote et al., 2023a; Ogunremi et al., 2024), text-to-speech (TTS) (Ogayo et al., 2022; Meyer et al., 2022; Ma et al., 2024; Lux et al., 2024), speaker recognition (Villalba et al., 2019), tone recognition (Obiang et al., 2024), emotion recognition, speech translation (Zanon Boito et al., 2022; Sikasote et al., 2023a; Ahia et al., 2024), and acoustic modeling (Vyas et al., 2020; Tachbelie et al., 2020). Recently, there has been growing interest in speech representation learning, particularly with transformer-based models. A few models include African languages, both African-centric (Kimanuka et al., 2024; Caubrière and Gauthier, 2024; Alabi et al., 2025) and massively multilingual mod-

els (Conneau et al., 2020a; Zanon Boito et al., 2024; Chen et al., 2024c). These advances are driven by efforts in the massive curation of speech resources. However, despite the broad coverage of these models, the most commonly used evaluation benchmark for ASR, FLEURS (Conneau et al., 2022), covers only 21 African languages, creating an imbalance in evaluation.

Language Models (LMs): During the survey period, there was a notable increase in the development of large transformer-based language models. Many studies introduced such models for African languages, including monolingual models for individual languages (Nzeyimana and Niyongabo Rubungo, 2022; Martin et al., 2022), and massively multilingual models that include African languages alongside others (Conneau and Lample, 2019; Imani et al., 2023). These models were developed by training them from scratch (Jude Ogundepo et al., 2022; Ogueji et al., 2021) or extending existing language models (Alabi et al., 2022; Adelani et al., 2024; Meyer et al., 2024). These advances, like those in speech, rely on large-scale language data from the web. In this line are also works on representation learning, which includes learning embedding representation for text (Yuan et al., 2020; Liu et al., 2023) or speech (Jacobs, 2024), and analyzing them (Alabi et al., 2020). In Appendix E.2, we provide an overview of several models for African languages, including LMs.

Information Extraction (IE) is another common category of NLP tasks and includes work on named entity recognition (NER) (Adelani et al., 2021a, 2022b; Rahimi et al., 2019; Oyewusi et al., 2021; Mbuvha et al., 2023), entity linking and typing (Lin et al., 2019; Zhu et al., 2019), event extraction (Jenkins et al., 2023), relation classification (Lent et al., 2024), and keyword spotting and localization (Yusuf and Saraçlar, 2019; Olaleye et al., 2022; Nortje et al., 2024). Among these, NER is particularly common due to the availability of resources such as MasakhaNER (Adelani et al., 2021a, 2022b) and Wikiann NER (Pan et al., 2017).

Language and Dialect Identification, for both text and speech, is another common task explored across many languages—including African languages—and has led to the development of tools such as AfroLID (Adebara et al., 2022b), GlotLID (Kargaran et al., 2023), and OpenLID (Burchell et al., 2023). While some studies treat this as a benchmark task for evaluating representation learning models (Zanon Boito et al.,

2024; Chen et al., 2024b), others focus on developing practical tools (Burchell et al., 2023; Kargaran et al., 2024b) that support downstream applications—such as multilingual data curation, where they are used to filter and organize resources by language (Abadji et al., 2022).

Question Answering (QA)—which involves extracting, retrieving, or generating answers to input queries—remains an emerging research area for African languages. Recent efforts have focused on creating benchmarks from sources such as Wikipedia, for both QA and machine reading comprehension across multiple languages. For example, multilingual datasets like TyDi QA (Clark et al., 2020), which includes only Swahili from Africa, AfriQA (Ogundepo et al., 2023), NaijaRC (Aremu et al., 2024), and AfriMed-QA (Nimo et al., 2025). There have also been language-specific initiatives (Wanjawa et al., 2023; Taffa et al., 2024; Costa-jussà et al., 2025). Another relevant work is Belebele (Bandarkar et al., 2024), a machine reading comprehension dataset translated into over 200 languages, including 50+ African languages.

Reasoning: Closely related to QA is the growing focus on evaluating the reasoning abilities of large language models. Recent work explores various types of reasoning—linguistic (Bean et al., 2024), cultural knowledge (Myung et al., 2024a), commonsense (Ponti et al., 2020), mathematical (Adelani et al., 2025), comparative (Agrawal et al., 2024), ethical (Agarwal et al., 2024), and moral (Khandelwal et al., 2024). Notably, many of the datasets used for such evaluations in African languages are translated from English, which may limit cultural relevance and linguistic nuance. Evaluation results show that LLMs generally perform better on these tasks in high-resource languages compared to low-resource ones, including African languages (Adelani et al., 2025).

Information Retrieval (IR)—the task of finding relevant documents or information in response to a query—is a less common but growing area of research for African languages. Recent efforts include the development of multilingual and cross-lingual IR resources, such as Mr. TyDi (Zhang et al., 2021), MIRACL (Zhang et al., 2023) and CIRAL (Adeyemi et al., 2024), which include one, two and four African languages respectively. Additional work in this field involves the creation of annotated resources for individual languages (Yeshambel et al., 2021). Furthermore,

there are works on developing multilingual bi-text and sentence retrieval models (Artetxe and Schwenk, 2019; Feng et al., 2022; Winata et al., 2024b) including several African languages.

Syntax, Tagging, and Parsing: A total of 68 papers have explored various syntax-related tasks, including dependency parsing (Seddah et al., 2020; Dione, 2021; Steimel and Kübler, 2023; Ralethe, 2020), syntactic parsing (Momoh, 2024), part-of-speech (POS) tagging (Dione et al., 2023; Faisal et al., 2024), and computational grammar (Hellan, 2020). These efforts span both resource creation and evaluation; however, they cover only a limited number of African languages.

Others: Other tasks categorization with less publications including semantics, multimodality (text + image or video), text generation (excluding machine translation) are described in Appendix C.

4.4 What resources are available?

Given that African languages are low-resource, efforts over the past five years have focused on developing resources—both for individual languages and at a large-scale multilingual level, particularly in the form of datasets. Our analysis shows that 401 papers (about 45%) involve dataset creation, with 126 papers creating datasets via translation. Many large multilingual datasets—such as NLU’s SIB-200 and Taxi-1500—are based on English translations. Similarly, speech datasets like FLEURS, FLEURS-R, and SpeechTaxi rely on translated data, which often lacks cultural relevance and may exhibit translationese (Koppel and Ordan, 2011; Bizzoni et al., 2020), limiting their real-world applicability. Table 1 lists examples of datasets and models, with a more comprehensive list in Appendix E.

4.5 What are the efficient or low-resource techniques used?

Given the low-resource status of African languages, researchers often rely on specialized techniques. Figure 7 (Appendix D) summarizes those used in the analyzed papers; we highlight six below.

Transfer Learning Our analysis shows that about 49% of the papers used transfer learning, primarily through word embeddings, or by fine-tuning pretrained models or using them as feature extractors. This approach has been effective across many languages, including low-resource ones, largely due to the availability of multilingually pretrained models that support cross-lingual transfer (Pfeiffer et al., 2021). However, a major challenge arises

when the target African language is not well represented in the pretrained model or its tokenizer. Common strategies to address this include **adaptive pretraining** (Pfeiffer et al., 2021; Alabi et al., 2022; Adelani et al., 2024; Meyer et al., 2024), and embedding initialization (Liu et al., 2024; Quinjica and Adelani, 2024; Dobler and de Melo, 2023).

Zero-Shot Cross-Lingual Transfer Learning is another commonly used technique in the papers. In this approach, a model is trained—often using transfer learning—on a source language and then evaluated directly on the target language. While English is a commonly used source language, some of the analyzed papers explore how to select the most effective source language (Dione et al., 2023; Adelani et al., 2023) and how to improve performance from the model side such as checkpoint and run averaging (Schmidt et al., 2023a,b).

Data Augmentation Data augmentation is another popular low-resource technique, used in 8% of the analyzed papers, and it has been successfully used for various tasks such as language modeling (Adelani et al., 2024; Singh et al., 2024; Azime et al., 2024), machine translation via back translation (Reid et al., 2021; Adelani et al., 2021b), and other tasks (Zhang et al., 2024b).

Audit and Data Filtering Due to the presence of language resources on the web that often contain irrelevant or low-quality content, auditing and filtering have become common and effective approaches—especially for low-resource languages. For instance, these methods have been shown to improve performance in language modeling tasks (Oladipo et al., 2023; Kudugunta et al., 2023).

Weak and Distant Supervision was also employed in the reviewed works, with the aim to improve model performance by generating noisy labels for unlabeled data via heuristics or external sources. When paired with noisy-label handling approaches, it proves beneficial for African languages. (Zhu et al., 2022; Hedderich et al., 2020; Adelani et al., 2020).

Other methods Other techniques including annotation projection (AP), meta learning, and multi-task learning (MTL) are described in Appendix D.

4.6 What are the other themes?

Interpretability and Analysis (IA): Methods on interpretability and model analysis have gained increasing attention in NLP in recent years (Mosbach et al., 2024). Although few studies focus

exclusively on African languages (Chimoto et al., 2024), there are several multilingual IA works on MT (Ahia et al., 2021; Adebara et al., 2022a; Mohammadshahi et al., 2022b), speech models (Osakuade and King, 2024), and LLM (Ahia et al., 2023; Alabi et al., 2024a; Zebaze et al., 2025; Zhang et al., 2024a; Shafayat et al., 2024) which include African languages. We identified 38 relevant papers in total, showing progress but highlighting the need for further work, especially in applying these insights to improve models’ performance.

Ethics, Bias, and Fairness: There are also a few works that focus on analyzing biases in NLP models and proposing mitigation strategies to promote fairness. Among the 29 relevant papers identified, gender bias (Costa-jussà et al., 2022) and cultural bias (Shan et al., 2023; Olatunji et al., 2023a; Magomere et al., 2025) were the most commonly addressed. However, much remains to be done to address bias and ensure equity across diverse linguistic and cultural contexts.

Human-Centered NLP: Human-centric research in NLP has gained prominence in both the NLP community (Soni et al., 2024) and the field of human-computer interaction (HCI), which has seen a massive uptake on work about LLMs (Pang et al., 2025). However, such work remains scarce in African NLP—for example, only 11 relevant papers have been presented at CHI, a leading HCI conference, and its African counterpart, AfriCHI.

NLP Applications: Our analysis identified 25 relevant papers that focus on the development of NLP technologies aimed at application areas such as education (Corallo and Varde, 2023), health (Abdulhamid et al., 2023), agriculture (Akeru et al., 2019), banking (Skiredj et al., 2024), and humanitarian response (Öktem et al., 2021).

5 Discussion and Future Directions

In this survey, we presented an overview of research on African languages over the past five years, covering key tasks such as machine translation, sentiment analysis, language identification, question answering, and reasoning with large language models. While notable progress has been made—particularly in dataset creation, benchmarking, and adaptation of multilingual models—our analysis reveals several limitations and points to important future directions.

Scaling beyond the top-10 resourced languages: It is important to invest efforts in support-

ing African languages beyond *Swahili* and other widely spoken ones, ensuring that lower-resourced and endangered languages also receive attention in preservation, research, and technological integration. Unlike other regions, Africa has more than 100 languages with more than 1M speakers, so scaling beyond the top-10 is urgently needed.

Towards more multi-cultural dataset creation: Our analysis shows that many benchmark datasets created for these languages, especially large-scale datasets such as *Flores*, are based on translated texts. Some of these lack cultural contexts of the users of this technology, and can amplify bias towards Western concepts especially for QA tasks (Romero et al., 2024) or reduce performance due to lack of cultural understanding (Akinade et al., 2023; Yao et al., 2024). There is a need to go beyond scaling by translation to building realistic multicultural datasets for African languages.

Towards more multimodal models for African languages: At the moment, there is significantly less research on developing *Visual LMs* (VLMs) for African languages. Existing VLMs perform poorly on African languages and cultural understanding of artifacts from African countries (Nayak et al., 2024; Winata et al., 2024a). This makes it difficult to answer culture-specific questions over images, and also amplifies cultural bias related to Africans identity, lifestyles, occupations, food, clothing, among others (Chiu et al., 2024).

More investment in speech processing tasks: Many languages in Africa are often *spoken* rather than *written*. However, only few languages have large-scale datasets covering over 100 hours for ASR. While platforms such as Mozilla Common-Voice have democratized the data collection, only few languages used the platforms due to lack of attribution by the contributors of the datasets (Rajab et al., 2025) and the difficulty of finding volunteers. Aside from popular tasks like ASR, other tasks such as text-to-speech, audio classification, speech translation, and many others lack datasets. To develop NLP models that would be used by many African communities, it must be accompanied with a speech component.

More exploration of other generation tasks: Most benchmarks for African languages have primarily focused on NLU and MT, partly due to the relative ease of creating datasets for these tasks. However, more attention should be given to language generation tasks—such as text summarization, grammar correction, dialog and table-to-text

generation—which are typically more challenging to build datasets for but are equally important for the development of robust language technologies.

More development of African-centric LLMs: Current LLMs, especially the open-weight versions, often do not officially include African languages in their pre-training (Aryabumi et al., 2024), and when they do, only few high-resource ones such as Afrikaans and Swahili with more than 1B tokens are covered (Yang et al., 2024). There is need to develop or adapt LLMs to more African languages. This should be accompanied by evaluation datasets that are culturally relevant, sector-specific, knowledge-intensive, and require reasoning to assess LLMs in truly low-resource languages.

Towards human-centered, application-driven NLP: Understanding human-centric factors and developing methods in the context of applications is essential to ensure that NLP technologies genuinely benefit users. More research is needed to explore the shared and distinct human-centric needs of African language-speaking communities, both within the continent and in comparison to other global contexts.

Finally, the successful implementation of all the aforementioned directions ultimately depends on activities such as support for community initiatives, the organization of shared tasks, and adequate funding—all of which serve as the foundational pillars for initiating, sustaining, and scaling these efforts.

6 Conclusion

In this survey, we provide a structured overview of recent developments in natural language processing for African languages over the past five years. Our study reveals steady and significant progress in research on African languages, driven by several factors such as the creation of multilingual language resources, increased community engagement, and various funding initiatives. We highlight common tasks, methods, and recurring themes that characterize current research efforts. However, these efforts have been disproportionately focused on a limited set of languages, tasks, and countries. As a result, we outline several potential directions for future research to ensure more balanced and inclusive development across the continent.

Limitations

Coverage Limitations: Although we used a systematic survey approach that combines automated

and expert-driven methods, one of the limitations of this survey is that it primarily focused on papers published in top-tier conferences and journals, which may exclude relevant works published within African venues and other venues. While we included papers from AfricaNLP, and AfriCHI, which are both African-centric venues, local research published in other venues may offer additional insights that are not captured in this study. Future work should broaden the scope to incorporate Africa-specific studies to provide more comprehensive understanding of the field and ensure that insights from the different parts of Africa are adequately represented. Similarly, our automated method, which relied on the Semantic Scholar API, may not have correctly indexed all relevant papers from the selected venues.

Potential False Negatives in Data Selection: Our manual annotation of 100 examples revealed that our filtering process using GPT-4o on HCI and arXiv papers resulted in a false negative. It is possible that a few relevant NLP papers on African languages were also omitted, particularly since large language models like GPT-4o are sensitive to prompts, and we only tested a single prompt.

Lack of dataset sheet for some papers: Some papers such as (Li et al., 2022), (Nguyen et al., 2024a) and toolkit papers such as (Emezue and Dossou, 2020a) and (Muete and Kizito, 2022) did not provide the list of languages covered despite covering hundred and thousands of languages. Although we included them in our analysis, we could not provide the studied languages.

Lack of social and ethical dimensions: of African NLP development. This survey focuses primarily on the technical landscape of African NLP, including datasets, tasks, languages, and modeling approaches, and does not systematically address social, cultural, or ethical dimensions such as community involvement, consent, bias, or potential harms of NLP systems. Human-centered evaluations and assessments of societal impact are beyond the scope of this survey. Future research should incorporate ethical, cultural, and social considerations to ensure that African NLP technologies are developed responsibly and equitably.

Acknowledgments

Jesujoba Alabi was funded by the Deutsche Forschungsgemeinschaft (DFG, German Research Foundation) – Project-ID 232722074 – SFB 1102.

David Adelani acknowledges the funding of IVADO and the Canada First Research Excellence Fund. We are grateful to Aravind Krishnan and Max Rausch-Dupont for their feedback on the manuscript. Finally, we would like to thank OpenAI for providing API credits through their Researcher Access API Program.

References

- Julien Abadji, Pedro Ortiz Suarez, Laurent Romary, and Benoît Sagot. 2022. [Towards a cleaner document-oriented multilingual crawled corpus](#). In *Proceedings of the Thirteenth Language Resources and Evaluation Conference*, pages 4344–4355, Marseille, France. European Language Resources Association.
- Amine Abdaoui, Mohamed Berrimi, Mourad Oussalah, and Abdelouahab Moussaoui. 2021. [Dziribert: a pre-trained language model for the algerian dialect](#). *ArXiv*, abs/2109.12346.
- Lamiaa Abdel-Hamid. 2020. [Egyptian arabic speech emotion recognition using prosodic, spectral and wavelet features](#). *Speech Commun.*, 122:19–30.
- Najeeb Gambo Abdulhamid, Millicent Ochieng, Kalika Bali, Elizabeth A. Ankrah, Naveena Karusala, Keshet Ronen, and Jacki O’Neill. 2023. [Can large language models support medical facilitation work? a speculative analysis](#). *Proceedings of the 4th African Human Computer Interaction Conference*.
- Idris Abdulmumin, Satya Ranjan Dash, Musa Abdullahi Dawud, Shantipriya Parida, Shamsuddeen Muhammad, Ibrahim Sa’id Ahmad, Subhadarshi Panda, Ondřej Bojar, Bashir Shehu Galadanci, and Bello Shehu Bello. 2022. [Hausa visual genome: A dataset for multi-modal English to Hausa machine translation](#). In *Proceedings of the Thirteenth Language Resources and Evaluation Conference*, pages 6471–6479, Marseille, France. European Language Resources Association.
- Ife Adebbara, Muhammad Abdul-Mageed, and Miikka Silfverberg. 2022a. [Linguistically-motivated Yorùbá-English machine translation](#). In *Proceedings of the 29th International Conference on Computational Linguistics*, pages 5066–5075, Gyeongju, Republic of Korea. International Committee on Computational Linguistics.
- Ife Adebbara, AbdelRahim Elmadany, and Muhammad Abdul-Mageed. 2023a. [Improving african language identification with multi-task learning](#). In *AfricaNLP*.
- Ife Adebbara, AbdelRahim Elmadany, and Muhammad Abdul-Mageed. 2024. [Cheetah: Natural language generation for 517 African languages](#). In *Proceedings of the 62nd Annual Meeting of the Association for Computational Linguistics (Volume 1: Long Papers)*, pages 12798–12823, Bangkok, Thailand. Association for Computational Linguistics.
- Ife Adebbara, AbdelRahim Elmadany, Muhammad Abdul-Mageed, and Alcides Alcoba Inciarte. 2023b. [SERENGETI: Massively multilingual language models for Africa](#). In *Findings of the Association for Computational Linguistics: ACL 2023*, pages 1498–1537, Toronto, Canada. Association for Computational Linguistics.
- Ife Adebbara, AbdelRahim Elmadany, Muhammad Abdul-Mageed, and Alcides Inciarte. 2022b. [AfroLID: A neural language identification tool for African languages](#). In *Proceedings of the 2022 Conference on Empirical Methods in Natural Language Processing*, pages 1958–1981, Abu Dhabi, United Arab Emirates. Association for Computational Linguistics.
- David Ifeoluwa Adelani, Jade Abbott, Graham Neubig, Daniel D’souza, Julia Kreutzer, Constantine Lignos, Chester Palen-Michel, Happy Buzaaba, Shruti Rijhwani, Sebastian Ruder, Stephen Mayhew, Israel Abebe Azime, Shamsuddeen H. Muhammad, Chris Chinenye Emezue, Joyce Nakatumba-Nabende, Perez Ogayo, Aremu Anuoluwapo, Catherine Gitau, Derguene Mbaye, and 42 others. 2021a. [MasakhaNER: Named entity recognition for African languages](#). *Transactions of the Association for Computational Linguistics*, 9:1116–1131.
- David Ifeoluwa Adelani, Jesujoba Oluwadara Alabi, Angela Fan, Julia Kreutzer, Xiaoyu Shen, Machel Reid, Dana Ruiter, Dietrich Klakow, Peter Nabende, Ernie Chang, Tajuddeen Gwadabe, Freshia Sackey, Bonaventure F. P. Dossou, Chris Emezue, Colin Leong, Michael Beukman, Shamsuddeen H. Muhammad, Guyo D. Jarso, Oreen Yousuf, and 26 others. 2022a. [A few thousand translations go a long way! leveraging pre-trained models for African news translation](#). In *Proceedings of the 2022 Conference of the North American Chapter of the Association for Computational Linguistics: Human Language Technologies*, pages 3053–3070, Seattle, United States. Association for Computational Linguistics.
- David Ifeoluwa Adelani, Michael A. Hedderich, D. Zhu, Esther van den Berg, and Dietrich Klakow. 2020. [Distant supervision and noisy label learning for low resource named entity recognition: A study on hausa and yorùbá](#). *arXiv: Computation and Language*.
- David Ifeoluwa Adelani, Hannah Liu, Xiaoyu Shen, Nikita Vassilyev, Jesujoba O. Alabi, Yanke Mao, Haonan Gao, and En-Shiun Annie Lee. 2024. [SIB-200: A simple, inclusive, and big evaluation dataset for topic classification in 200+ languages and dialects](#). In *Proceedings of the 18th Conference of the European Chapter of the Association for Computational Linguistics (Volume 1: Long Papers)*, pages 226–245, St. Julian’s, Malta. Association for Computational Linguistics.
- David Ifeoluwa Adelani, Marek Masiak, Israel Abebe Azime, Jesujoba Alabi, Atnafu Lambebo Tonja, Christine Mwase, Odunayo Ogundepo, Bonaventure F. P. Dossou, Akintunde Oladipo, Doreen Nixdorf,

- Chris Chinenye Emezue, Sana Al-azzawi, Blessing Sibanda, Davis David, Lolwethu Ndolela, Jonathan Mukiibi, Tunde Ajayi, Tatiana Moteu, Brian Odhi-ambo, and 46 others. 2023. [MasakhaNEWS: News topic classification for African languages](#). In *Proceedings of the 13th International Joint Conference on Natural Language Processing and the 3rd Conference of the Asia-Pacific Chapter of the Association for Computational Linguistics (Volume 1: Long Papers)*, pages 144–159, Nusa Dua, Bali. Association for Computational Linguistics.
- David Ifeoluwa Adelani, Graham Neubig, Sebastian Ruder, Shruti Rijhwani, Michael Beukman, Chester Palen-Michel, Constantine Lignos, Jesujoba O. Alabi, Shamsuddeen H. Muhammad, Peter Nabende, Cheikh M. Bamba Dione, Andiswa Bukula, Roowether Mabuya, Bonaventure F. P. Dossou, Blessing Sibanda, Happy Buzaaba, Jonathan Mukiibi, Godson Kalipe, Derguene Mbaye, and 26 others. 2022b. [MasakhaNER 2.0: Africa-centric transfer learning for named entity recognition](#). In *Proceedings of the 2022 Conference on Empirical Methods in Natural Language Processing*, pages 4488–4508, Abu Dhabi, United Arab Emirates. Association for Computational Linguistics.
- David Ifeoluwa Adelani, Jessica Ojo, Israel Abebe Azime, Jian Yun Zhuang, Jesujoba O. Alabi, Xuanli He, Millicent Ochieng, Sara Hooker, Andiswa Bukula, En-Shiun Annie Lee, Chiamaka Chukwuneke, Happy Buzaaba, Blessing Sibanda, Godson Kalipe, Jonathan Mukiibi, Salomon Kabongo, Foutse Yuehgoh, Mmasibidi Setaka, Lolwethu Ndolela, and 8 others. 2025. [Irokobench: A new benchmark for african languages in the age of large language models](#). *Preprint*, arXiv:2406.03368.
- David Ifeoluwa Adelani, Dana Ruiters, Jesujoba O. Alabi, Damilola Adebajo, Adesina Ayeni, Mofe Adeyemi, Ayodele Esther Awokoya, and Cristina España-Bonet. 2021b. [The effect of domain and diacritics in Yoruba-English neural machine translation](#). In *Proceedings of Machine Translation Summit XVIII: Research Track*, pages 61–75, Virtual. Association for Machine Translation in the Americas.
- Henok Biadglign Ademteu and Mikiyas Birbo. 2024. [Age: Amharic, ge'ez and english parallel dataset](#). *Proceedings of the Seventh Workshop on Technologies for Machine Translation of Low-Resource Languages (LoResMT 2024)*.
- Tosin P. Adewumi, Mofetoluwa Adeyemi, Aremu Anuoluwapo, Bukola Peters, Happy Buzaaba, Oylerinde Samuel, Amina Mardiyah Rufai, Benjamin Ayoade Ajibade, Tajudeen Gwadabe, Mory Moussou Koulibaly Traore, Tunde Oluwaseyi Ajayi, Shamsuddeen Hassan Muhammad, Ahmed Baruwa, Paul Owoicho, Tolúlopé Ogúnremí, Phylis Ngigi, Orevaoghene Ahia, Ruqayya Nasir, Foteini Simistira Liwicki, and Marcus Liwicki. 2023. [Afriwoz: Corpus for exploiting cross-lingual transfer for dialogue generation in low-resource, african languages](#). 2023 *International Joint Conference on Neural Networks (IJCNN)*, pages 1–8.
- Mofetoluwa Adeyemi, Akintunde Oladipo, Xinyu Zhang, David Alfonso-Hermelo, Mehdi Reza-gholizadeh, Boxing Chen, Abdul-Hakeem Omotayo, Idris Abdulmumin, Naome A. Etori, Toyib Babatunde Musa, Samuel Fanijo, Oluwabusayo Olufunke Awoyomi, Saheed Abdullahi Salahudeen, Labaran Adamu Mohammed, Daud Olamide Abolade, Falalu Ibrahim Lawan, Maryam Sabo Abubakar, Ruqayya Nasir Iro, Amina Imam Abubakar, and 4 others. 2024. [Ciral: A test collection for clir evaluations in african languages](#). In *Proceedings of the 47th International ACM SIGIR Conference on Research and Development in Information Retrieval, SIGIR '24*, page 293–302, New York, NY, USA. Association for Computing Machinery.
- Wafia Adouane, Jean-Philippe Bernardy, and Simon Dobnik. 2019. [Normalising non-standardised orthography in Algerian code-switched user-generated data](#). In *Proceedings of the 5th Workshop on Noisy User-generated Text (W-NUT 2019)*, pages 131–140, Hong Kong, China. Association for Computational Linguistics.
- Olanrewaju Tahir Aduragba, Jialin Yu, Alexandra Ioana Cristea, and Yang Long. 2023. [Improving health mention classification through emphasising literal meanings: A study towards diversity and generalisation for public health surveillance](#). *Proceedings of the ACM Web Conference 2023*.
- Tejumade Afonja, Oladimeji Mudele, Irero Orife, Kenechi Dukor, Lawrence Francis, Duru Goodness, Oluwafemi Azeez, Ademola Malomo, and Clinton Mbataku. 2021. [Learning nigerian accent embeddings from speech: preliminary results based on sautidb-naija corpus](#). *ArXiv*, abs/2112.06199.
- Utkarsh Agarwal, Kumar Tanmay, Aditi Khandelwal, and Monojit Choudhury. 2024. [Ethical reasoning and moral value alignment of LLMs depend on the language we prompt them in](#). In *Proceedings of the 2024 Joint International Conference on Computational Linguistics, Language Resources and Evaluation (LREC-COLING 2024)*, pages 6330–6340, Torino, Italia. ELRA and ICCL.
- Željko Agić and Ivan Vulić. 2019. [JW300: A wide-coverage parallel corpus for low-resource languages](#). In *Proceedings of the 57th Annual Meeting of the Association for Computational Linguistics*, pages 3204–3210, Florence, Italy. Association for Computational Linguistics.
- Ameeta Agrawal, Andy Dang, Sina Bagheri Nezhad, Rhitabrata Pokharel, and Russell Scheinberg. 2024. [Evaluating multilingual long-context models for retrieval and reasoning](#). In *Proceedings of the Fourth Workshop on Multilingual Representation Learning (MRL 2024)*, pages 216–231, Miami, Florida, USA. Association for Computational Linguistics.

- Orevaoghene Ahia, Anuoluwapo Aremu, Diana Abagyan, Hila Gonen, David Ifeoluwa Adelani, Daud Abolade, Noah A. Smith, and Yulia Tsvetkov. 2024. [Voices unheard: NLP resources and models for Yorùbá regional dialects](#). In *Proceedings of the 2024 Conference on Empirical Methods in Natural Language Processing*, pages 4392–4409, Miami, Florida, USA. Association for Computational Linguistics.
- Orevaoghene Ahia, Julia Kreutzer, and Sara Hooker. 2021. [The low-resource double bind: An empirical study of pruning for low-resource machine translation](#). In *Findings of the Association for Computational Linguistics: EMNLP 2021*, pages 3316–3333, Punta Cana, Dominican Republic. Association for Computational Linguistics.
- Orevaoghene Ahia, Sachin Kumar, Hila Gonen, Jungo Kasai, David Mortensen, Noah Smith, and Yulia Tsvetkov. 2023. [Do all languages cost the same? tokenization in the era of commercial language models](#). In *Proceedings of the 2023 Conference on Empirical Methods in Natural Language Processing*, pages 9904–9923, Singapore. Association for Computational Linguistics.
- Emily P. Ahn, Gina-Anne Levow, Richard A. Wright, and Eleanor Chodroff. 2023. [An outlier analysis of vowel formants from a corpus phonetics pipeline](#). In *Interspeech 2023*, pages 2573–2577.
- Kabir Ahuja, Harshita Diddee, Rishav Hada, Millicent Ochieng, Krithika Ramesh, Prachi Jain, Akshay Nambi, Tanuja Ganu, Sameer Segal, Mohamed Ahmed, Kalika Bali, and Sunayana Sitaram. 2023. [MEGA: Multilingual evaluation of generative AI](#). In *Proceedings of the 2023 Conference on Empirical Methods in Natural Language Processing*, pages 4232–4267, Singapore. Association for Computational Linguistics.
- Sanchit Ahuja, Divyanshu Aggarwal, Varun Gumma, Ishaan Watts, Ashutosh Sathe, Millicent Ochieng, Rishav Hada, Prachi Jain, Mohamed Ahmed, Kalika Bali, and Sunayana Sitaram. 2024. [MEGAVERSE: Benchmarking large language models across languages, modalities, models and tasks](#). In *Proceedings of the 2024 Conference of the North American Chapter of the Association for Computational Linguistics: Human Language Technologies (Volume 1: Long Papers)*, pages 2598–2637, Mexico City, Mexico. Association for Computational Linguistics.
- Daniel Ajisafe, Oluwabukola Grace Adegboro, Esther Oduntan, and Tayo Oladiran Arulogun. 2020. [Towards end-to-end training of automatic speech recognition for nigerian pidgin](#). *ArXiv*, abs/2010.11123.
- Benjamin Akera, Joyce Nakatumba-Nabende, Jonathan Mukiibi, Ali Hussein, Nathan Baleeta, Daniel Ssendi-wala, and Samiha Nalwooga. 2019. [Keyword spotter model for crop pest and disease monitoring from community radio data](#). *ArXiv*, abs/1910.02292.
- Idris Akinade, Jesujoba O. Alabi, David Ifeoluwa Adelani, Clement Odoje, and Dietrich Klakow. 2023. [Varepsilon kú mask: Integrating Yorùbá cultural greetings into machine translation](#). In *Proceedings of the First Workshop on Cross-Cultural Considerations in NLP (C3NLP)*, pages 1–7, Dubrovnik, Croatia. Association for Computational Linguistics.
- Jesujoba Alabi, Marius Mosbach, Matan Eyal, Dietrich Klakow, and Mor Geva. 2024a. [The hidden space of transformer language adapters](#). In *Proceedings of the 62nd Annual Meeting of the Association for Computational Linguistics (Volume 1: Long Papers)*, pages 6588–6607, Bangkok, Thailand. Association for Computational Linguistics.
- Jesujoba O. Alabi, David Ifeoluwa Adelani, Marius Mosbach, and Dietrich Klakow. 2022. [Adapting pre-trained language models to African languages via multilingual adaptive fine-tuning](#). In *Proceedings of the 29th International Conference on Computational Linguistics*, pages 4336–4349, Gyeongju, Republic of Korea. International Committee on Computational Linguistics.
- Jesujoba O. Alabi, Kwabena Amponsah-Kaakyire, David I. Adelani, and Cristina España-Bonet. 2020. [Massive vs. curated embeddings for low-resourced languages: the case of Yorùbá and Twi](#). In *Proceedings of the Twelfth Language Resources and Evaluation Conference*, pages 2754–2762, Marseille, France. European Language Resources Association.
- Jesujoba O. Alabi, Xuechen Liu, Dietrich Klakow, and Junichi Yamagishi. 2025. [AfriHuBERT: A self-supervised speech representation model for African languages](#). In *Interspeech 2025*, pages 4023–4027.
- Jesujoba Oluwadara Alabi, Xuechen Liu, Dietrich Klakow, and Junichi Yamagishi. 2024b. [Afrihubert: A self-supervised speech representation model for african languages](#). *ArXiv*, abs/2409.20201.
- Sadeen Alharbi, Areeb Alowisheq, Zoltán Tüske, Kareem Darwish, Abdullah Alrajeh, Abdulmajeed Alrowithi, Aljawharah Bin Tamran, Asma Ibrahim, Raghad Aloraini, Raneem Alnajim, Ranya Alkah-tani, Renad Almuasaad, Sara Alrasheed, Shaykhah Z. Alsubaie, and Yaser Alonaizan. 2024. [Sada: Saudi audio dataset for arabic](#). *ICASSP 2024 - 2024 IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP)*, pages 10286–10290.
- Felermimo D. M. A. Ali, Henrique Lopes Cardoso, and Rui Sousa-Silva. 2024a. [Building resources for emakhuwa: Machine translation and news classification benchmarks](#). In *Proceedings of the 2024 Conference on Empirical Methods in Natural Language Processing*, pages 14842–14857, Miami, Florida, USA. Association for Computational Linguistics.
- Felermimo Dario Mario Ali, Henrique Lopes Cardoso, and Rui Sousa-Silva. 2024b. [Expanding FLORES+ benchmark for more low-resource settings: Portuguese-emakhuwa machine translation evaluation](#). In *Proceedings of the Ninth Conference on Machine Translation*, pages 579–592, Miami, Florida, USA. Association for Computational Linguistics.

- Tanel Alumäe, Kunnar Kukk, Viet Bac Le, Claude Baras, Abdelkhalek Messaoudi, and Waad Ben Kheder. 2023. [Exploring the impact of pretrained models and web-scraped data for the 2022 nist language recognition evaluation](#). In *Interspeech*.
- Cynthia Jayne Amol, Evelyn Asiko Chimoto, Rose Delilah Gesicho, Antony M. Gitau, Naome A. Etori, Carington Kinyanjui, Steven Ndung'u, Lawrence Moruye, Samson Otieno Ooko, Kavengi Kitonga, Brian Muhia, Catherine Gitau, Antony Ndolo, Lilian D. A. Wanzare, Albert Njoroge Kahira, and Ronald Tombe. 2024. [State of nlp in kenya: A survey](#). *Preprint*, arXiv:2410.09948.
- Antonios Anastasopoulos, Alessandro Cattelan, Zi-Yi Dou, Marcello Federico, Christian Federmann, Dmitriy Genzel, Francisco Guzmán, Junjie Hu, Macduff Hughes, Philipp Koehn, Rosie Lazar, Will Lewis, Graham Neubig, Mengmeng Niu, Alp Öktem, Eric Paquin, Grace Tang, and Sylwia Tur. 2020. [TICO-19: the translation initiative for COvid-19](#). In *Proceedings of the 1st Workshop on NLP for COVID-19 (Part 2) at EMNLP 2020*, Online. Association for Computational Linguistics.
- Michael Andersland. 2024. [Amharic llama and llava: Multimodal llms for low resource languages](#). *ArXiv*, abs/2403.06354.
- Anthropic. 2024. Claude 3.5 sonnet. <https://www.anthropic.com/news/claude-3-5-sonnet>. Accessed October 14, 2024.
- Rosana Ardila, Megan Branson, Kelly Davis, Michael Kohler, Josh Meyer, Michael Henretty, Reuben Morais, Lindsay Saunders, Francis Tyers, and Gregor Weber. 2020. [Common voice: A massively-multilingual speech corpus](#). In *Proceedings of the Twelfth Language Resources and Evaluation Conference*, pages 4218–4222, Marseille, France. European Language Resources Association.
- Anuoluwapo Aremu, Jesujoba Oluwadara Alabi, Daud Abolade, Nkechinyere Faith Aguobi, Shamsuddeen Hassan Muhammad, and David Ifeoluwa Adelani. 2024. [NaijaRC: A multi-choice reading comprehension dataset for nigerian languages](#). In *5th Workshop on African Natural Language Processing*.
- Mikel Artetxe and Holger Schwenk. 2019. [Massively multilingual sentence embeddings for zero-shot cross-lingual transfer and beyond](#). *Transactions of the Association for Computational Linguistics*, 7:597–610.
- Viraat Aryabumi, John Dang, Dwarak Talupuru, Saurabh Dash, David Cairuz, Hangyu Lin, Bharat Venkitesh, Madeline Smith, Kelly Marchisio, Sebastian Ruder, Acyr F. Locatelli, Julia Kreutzer, Nick Frosst, Phil Blunsom, Marzieh Fadaee, A. Ustun, and Sara Hooker. 2024. [Aya 23: Open weight releases to further multilingual progress](#). *ArXiv*, abs/2405.15032.
- Saurav K. Aryal, Howard Prioleau, and Surakshya Aryal. 2023. [Sentiment analysis across multiple african languages: A current benchmark](#). *Preprint*, arXiv:2310.14120.
- Akari Asai, Sneha Kudugunta, Xinyan Yu, Terra Blevins, Hila Gonen, Machel Reid, Yulia Tsvetkov, Sebastian Ruder, and Hannaneh Hajishirzi. 2024. [BUFFET: Benchmarking large language models for few-shot cross-lingual transfer](#). In *Proceedings of the 2024 Conference of the North American Chapter of the Association for Computational Linguistics: Human Language Technologies (Volume 1: Long Papers)*, pages 1771–1800, Mexico City, Mexico. Association for Computational Linguistics.
- Jesse Atuhurra, Hiroyuki Shindo, Hidetaka Kamigaito, and Taro Watanabe. 2024. [Introducing syllable tokenization for low-resource languages: A case study with swahili](#). *ArXiv*, abs/2406.15358.
- Busayo Awobade, Mardiyah Oduwale, and Steven Kolawole. 2024. [What happens when small is made smaller? exploring the impact of compression on small data pretrained language models](#). *ArXiv*, abs/2404.04759.
- Israel Abebe Azime and Nebil Mohammed. 2021. [An amharic news text classification dataset](#). In *AfricaNLP*.
- Israel Abebe Azime, Atnafu Lambebo Tonja, Tadesse Destaw Belay, Mitiku Yohannes Fuge, Aman Kassahun Wassie, Eyasu Shiferaw Jada, Yonas Chanie, Walegn Tewabe Sewunetie, and Seid Muhie Yimam. 2024. [Walia-LLM: Enhancing Amharic-LLaMA by integrating task-specific and generative datasets](#). In *Findings of the Association for Computational Linguistics: EMNLP 2024*, pages 432–444, Miami, Florida, USA. Association for Computational Linguistics.
- Paul Azunre, Salomey Osei, Salomey Addo, Lawrence Asamoah Adu-Gyamfi, Stephen E. Moore, Bernard Adabankah, Bernard Opoku, Clara Asare-Nyarko, Samuel Nyarko, Cynthia Amoaba, Esther Dansoa Appiah, Felix Akwerh, Richard Nii Lante Lawson, Joel Budu, Emmanuel Debrah, Nana Adowaa Boateng, Wisdom Ofori, Edwin Buabeng-Munkoh, Franklin Adjei, and 8 others. 2021a. [Nlp for ghanaian languages](#). *ArXiv*, abs/2103.15475.
- Paul Azunre, Salomey Osei, Salomey Afua Addo, Lawrence Asamoah Adu-Gyamfi, Stephen E. Moore, Bernard Adabankah, Bernard Opoku, Clara Asare-Nyarko, Samuel Nyarko, Cynthia Amoaba, Esther Dansoa Appiah, Felix Akwerh, Richard Nii Lante Lawson, Joel Budu, Emmanuel Debrah, Nana Adowaa Boateng, Wisdom Ofori, Edwin Buabeng-Munkoh, Franklin Adjei, and 8 others. 2021b. [English-twi parallel corpus for machine translation](#). *ArXiv*, abs/2103.15625.
- Arun Babu, Changan Wang, Andros Tjandra, Kushal Lakhotia, Qiantong Xu, Naman Goyal, Kritika Singh,

- Patrick von Platen, Yatharth Saraf, Juan Pino, Alexei Baevski, Alexis Conneau, and Michael Auli. 2022. [Xls-r: Self-supervised cross-lingual speech representation learning at scale](#). In *Interspeech 2022*, pages 2278–2282.
- David Bamutura, Peter Ljunglöf, and Peter Nebende. 2020. [Towards computational resource grammars for Runyankore and rukiga](#). In *Proceedings of the Twelfth Language Resources and Evaluation Conference*, pages 2846–2854, Marseille, France. European Language Resources Association.
- Lucas Bandarkar, Davis Liang, Benjamin Muller, Mikel Artetxe, Satya Narayan Shukla, Donald Husa, Naman Goyal, Abhinandan Krishnan, Luke Zettlemoyer, and Madian Khabza. 2024. [The belebele benchmark: a parallel reading comprehension dataset in 122 language variants](#). In *Proceedings of the 62nd Annual Meeting of the Association for Computational Linguistics (Volume 1: Long Papers)*, pages 749–775, Bangkok, Thailand. Association for Computational Linguistics.
- Paul Bandia. 1996. Code-switching and code-mixing in african creative writing: Some insights for translation studies. *TTR: traduction, terminologie, rédaction*, 9(1):139–153.
- Andrew Michael Bean, Simeon Hellsten, Harry Mayne, Jabez Magomere, Ethan A Chi, Ryan Andrew Chi, Scott A. Hale, and Hannah Rose Kirk. 2024. [LIN-GOLY: A benchmark of olympiad-level linguistic reasoning puzzles in low resource and extinct languages](#). In *The Thirty-eight Conference on Neural Information Processing Systems Datasets and Benchmarks Track*.
- Emily M. Bender. 2019. [The benderrule: On naming the languages we study and why it matters](#). In *The Gradient*.
- Abhik Bhattacharjee, Tahmid Hasan, Wasi Uddin Ahmad, Yuan-Fang Li, Yong-Bin Kang, and Rifat Shahriyar. 2023. [CrossSum: Beyond English-centric cross-lingual summarization for 1,500+ language pairs](#). In *Proceedings of the 61st Annual Meeting of the Association for Computational Linguistics (Volume 1: Long Papers)*, pages 2541–2564, Toronto, Canada. Association for Computational Linguistics.
- Yuri Bizzoni, Tom S Juzek, Cristina España-Bonet, Koel Dutta Chowdhury, Josef van Genabith, and Elke Teich. 2020. [How human is machine translation? comparing human and machine translations of text and speech](#). In *Proceedings of the 17th International Conference on Spoken Language Translation*, pages 280–290, Online. Association for Computational Linguistics.
- Laurie Burchell, Alexandra Birch, Nikolay Bogoychev, and Kenneth Heafield. 2023. [An open dataset and model for language identification](#). In *Proceedings of the 61st Annual Meeting of the Association for Computational Linguistics (Volume 2: Short Papers)*, pages 865–879, Toronto, Canada. Association for Computational Linguistics.
- Antoine Caubrière and Elodie Gauthier. 2024. [Africa-centric self-supervised pretraining for multilingual speech representation in a sub-saharan context](#). In *5th Workshop on African Natural Language Processing*.
- Ernie Chang, David Ifeoluwa Adelani, Xiaoyu Shen, and Vera Demberg. 2020. [Unsupervised pidgin text generation by pivoting english data and self-training](#). *ArXiv*, abs/2003.08272.
- Tyler A. Chang, Catherine Arnett, Zhuowen Tu, and Benjamin Bergen. 2024. [Goldfish: Monolingual language models for 350 languages](#). *ArXiv*, abs/2408.10441.
- Jiaao Chen, Derek Tam, Colin Raffel, Mohit Bansal, and Diyi Yang. 2023. [An empirical survey of data augmentation for limited data learning in NLP](#). *Transactions of the Association for Computational Linguistics*, 11:191–211.
- Wei-Rui Chen, Ife Adebbara, and Muhammad Abdul-Mageed. 2024a. [Interplay of machine translation, diacritics, and diacritization](#). In *Proceedings of the 2024 Conference of the North American Chapter of the Association for Computational Linguistics: Human Language Technologies (Volume 1: Long Papers)*, pages 7559–7601, Mexico City, Mexico. Association for Computational Linguistics.
- Wei-Rui Chen, Ife Adebbara, Khai Doan, Qisheng Liao, and Muhammad Abdul-Mageed. 2024b. [Fumbling in babel: An investigation into ChatGPT’s language identification ability](#). In *Findings of the Association for Computational Linguistics: NAACL 2024*, pages 4387–4413, Mexico City, Mexico. Association for Computational Linguistics.
- William Chen, Wangyou Zhang, Yifan Peng, Xinjian Li, Jinchuan Tian, Jiatong Shi, Xuankai Chang, Soumi Maiti, Karen Livescu, and Shinji Watanabe. 2024c. [Towards robust speech representation learning for thousands of languages](#). In *Proceedings of the 2024 Conference on Empirical Methods in Natural Language Processing*, pages 10205–10224, Miami, Florida, USA. Association for Computational Linguistics.
- Yaqi Chen, Xukui Yang, Hao Zhang, Wenlin Zhang, Dan Qu, and Cong Chen. 2024d. [Meta adversarial learning improves low-resource speech recognition](#). *Computer Speech & Language*, 84:101576.
- Yaqi Chen, Hao Zhang, Xukui Yang, Wenlin Zhang, and Dan Qu. 2024e. [Improving cross-lingual low-resource speech recognition by task-based meta poly-loss](#). *Computer Speech & Language*, 87:101648.
- Everlyn Asiko Chimoto and Bruce A. Bassett. 2022. [COMET-QE and active learning for low-resource machine translation](#). In *Findings of the Association for Computational Linguistics: EMNLP 2022*, pages 4735–4740, Abu Dhabi, United Arab Emirates. Association for Computational Linguistics.

- Everlyn Asiko Chimoto, Jay Gala, Orevaoghene Ahia, Julia Kreutzer, Bruce A. Bassett, and Sara Hooker. 2024. [Critical learning periods: Leveraging early training dynamics for efficient data pruning](#). In *Findings of the Association for Computational Linguistics: ACL 2024*, pages 9407–9426, Bangkok, Thailand. Association for Computational Linguistics.
- Yu Ying Chiu, Liwei Jiang, Bill Yuchen Lin, Chan Young Park, Shuyue Stella Li, Sahithya Ravi, Mehar Bhatia, Maria Antoniak, Yulia Tsvetkov, Vered Shwartz, and Yejin Choi. 2024. [Cultural-bench: a robust, diverse and challenging benchmark on measuring the \(lack of\) cultural knowledge of llms](#). *ArXiv*, abs/2410.02677.
- Rochelle Choenni, Dan Garrette, and Ekaterina Shutova. 2023. [Cross-lingual transfer with language-specific subnetworks for low-resource dependency parsing](#). *Computational Linguistics*, pages 613–641.
- Chiamaka Chukwuneke, Ignatius Ezeani, Paul Rayson, and Mahmoud El-Haj. 2022. [IgboBERT models: Building and training transformer models for the Igbo language](#). In *Proceedings of the Thirteenth Language Resources and Evaluation Conference*, pages 5114–5122, Marseille, France. European Language Resources Association.
- Hyung Won Chung, Thibault F  vry, Henry Tsai, Melvin Johnson, and Sebastian Ruder. 2020. [Rethinking embedding coupling in pre-trained language models](#). *ArXiv*, abs/2010.12821.
- Jonathan H. Clark, Eunsol Choi, Michael Collins, Dan Garrette, Tom Kwiatkowski, Vitaly Nikolaev, and Jennimaria Palomaki. 2020. [TyDi QA: A benchmark for information-seeking question answering in typologically diverse languages](#). *Transactions of the Association for Computational Linguistics*, 8:454–470.
- Alexis Conneau, Alexei Baevski, Ronan Collobert, Abdel rahman Mohamed, and Michael Auli. 2020a. [Unsupervised cross-lingual representation learning for speech recognition](#). *ArXiv*, abs/2006.13979.
- Alexis Conneau, Kartikay Khandelwal, Naman Goyal, Vishrav Chaudhary, Guillaume Wenzek, Francisco Guzm  n, Edouard Grave, Myle Ott, Luke Zettlemoyer, and Veselin Stoyanov. 2020b. [Unsupervised cross-lingual representation learning at scale](#). In *Proceedings of the 58th Annual Meeting of the Association for Computational Linguistics*, pages 8440–8451, Online. Association for Computational Linguistics.
- Alexis Conneau and Guillaume Lample. 2019. Cross-lingual language model pretraining. In *Proceedings of the 33rd International Conference on Neural Information Processing Systems*.
- Alexis Conneau, Min Ma, Simran Khanuja, Yu Zhang, Vera Axelrod, Siddharth Dalmia, Jason Riesa, Clara Rivera, and Ankur Bapna. 2022. [Fleurs: Few-shot learning evaluation of universal representations of speech](#). 2022 *IEEE Spoken Language Technology Workshop (SLT)*, pages 798–805.
- Levi Corallo and Aparna S. Varde. 2023. [Optical character recognition and transcription of berber signs from images in a low-resource language amazigh](#). *ArXiv*, abs/2303.13549.
- Marta Costa-juss  , Christine Basta, Oriol Domingo, and Andr   Rubungo. 2022. [Occgen: Selection of real-world multilingual parallel data balanced in gender within occupations](#). In *Advances in Neural Information Processing Systems*, volume 35, pages 1445–1457. Curran Associates, Inc.
- Marta R. Costa-juss  , Joy Chen, Ife Adebara, Joe Chuang, Christophe Ropers, and Eduardo S  nchez. 2025. [Y-NQ: English-Yor  b   evaluation dataset for open-book reading comprehension with open-ended questions](#). In *Proceedings of the Sixth Workshop on African Natural Language Processing (AfricaNLP 2025)*, pages 248–254, Vienna, Austria. Association for Computational Linguistics.
- Marta Ruiz Costa-juss  , Christine Basta, Oriol Domingo, and Andre Niyongabo Rubungo. 2022. [Occgen: Selection of real-world multilingual parallel data balanced in gender within occupations](#). In *Neural Information Processing Systems*.
- Ona de Gibert, Graeme Nail, Nikolay Arefyev, Marta Ba  n, Jelmer van der Linde, Shaoxiong Ji, Jaime Zaragoza-Bernabeu, Mikko Aulamo, Gema Ram  rez-S  nchez, Andrey Kutuzov, Sampo Pyysalo, Stephan Oepen, and J  rg Tiedemann. 2024. [A new massive multilingual dataset for high-performance language technologies](#). In *Proceedings of the 2024 Joint International Conference on Computational Linguistics, Language Resources and Evaluation (LREC-COLING 2024)*, pages 1116–1128, Torino, Italia. ELRA and ICCL.
- Mountaga Diallo, Chayma Fourati, and Hatem Hadad. 2021. Bambara language dataset for sentiment analysis. In *Practical ML for Developing Countries Workshop. ICLR 2021, Virtual Event*.
- Cheikh M. Bamba Dione. 2020. [Implementation and evaluation of an LFG-based parser for Wolof](#). In *Proceedings of the Twelfth Language Resources and Evaluation Conference*, pages 5128–5136, Marseille, France. European Language Resources Association.
- Cheikh M. Bamba Dione. 2021. [Multilingual dependency parsing for low-resource African languages: Case studies on Bambara, Wolof, and Yoruba](#). In *Proceedings of the 17th International Conference on Parsing Technologies and the IWPT 2021 Shared Task on Parsing into Enhanced Universal Dependencies (IWPT 2021)*, pages 84–92, Online. Association for Computational Linguistics.
- Cheikh M. Bamba Dione, David Ifeoluwa Adelani, Peter Nabende, Jesujoba Alabi, Thapelo Sindane, Happy Buzaaba, Shamsuddeen Hassan Muhammad, Chris Chinenye Emezue, Perez Ogayo, Anuoluwapo Aremu, Catherine Gitau, Derguene Mbaye, Jonathan Mukiibi, Blessing Sibanda, Bonaventure F. P. Dossou,

- Andiswa Bukula, Rooweither Mabuya, Allahsera Augustine Tapo, Edwin Munkoh-Buabeng, and 25 others. 2023. [MasakhaPOS: Part-of-speech tagging for typologically diverse African languages](#). In *Proceedings of the 61st Annual Meeting of the Association for Computational Linguistics (Volume 1: Long Papers)*, pages 10883–10900, Toronto, Canada. Association for Computational Linguistics.
- Konstantin Dobler and Gerard de Melo. 2023. [FOCUS: Effective embedding initialization for monolingual specialization of multilingual models](#). In *Proceedings of the 2023 Conference on Empirical Methods in Natural Language Processing*, pages 13440–13454, Singapore. Association for Computational Linguistics.
- Bonaventure F. P. Dossou and Chris C. Emezue. 2021. [Okwugbé: End-to-end speech recognition for fon and igbo](#). *ArXiv*, abs/2103.07762.
- Bonaventure F. P. Dossou, Iffanice B. Houndayi, Pamelly Zantou, and Gilles Hacheme. 2023. [Fonmtl: Towards multitask learning for the fon language](#). *ArXiv*, abs/2308.14280.
- Bonaventure F. P. Dossou, Atnafu Lambebo Tonja, Oreen Yousuf, Salomey Osei, Abigail Oppong, Iyanuoluwa Shode, Oluwabusayo Olufunke Awoyomi, and Chris Emezue. 2022. [AfroLM: A self-active learning-based multilingual pretrained language model for 23 African languages](#). In *Proceedings of The Third Workshop on Simple and Efficient Natural Language Processing (SustaiNLP)*, pages 52–64, Abu Dhabi, United Arab Emirates (Hybrid). Association for Computational Linguistics.
- Moussa Doumbouya, Lisa Einstein, and Chris Piech. 2021. Using radio archives for low-resource speech recognition: Towards an intelligent virtual assistant for illiterate users. In *Proceedings of the AAAI Conference on Artificial Intelligence*, volume 35.
- Abhimanyu Dubey, Abhinav Jauhri, Abhinav Pandey, Abhishek Kadian, Ahmad Al-Dahle, Aiesha Letman, Akhil Mathur, Alan Schelten, Amy Yang, Angela Fan, Anirudh Goyal, Anthony Hartshorn, Aobo Yang, Archi Mitra, Archie Sravankumar, Artem Korenev, Arthur Hinsvark, Arun Rao, Aston Zhang, and 514 others. 2024. [The Llama 3 Herd of Models](#). *Preprint*, arXiv:2407.21783.
- Jacob Eisenstein, Vinodkumar Prabhakaran, Clara Rivera, Dorothea Demszky, and Devyani Sharma. 2023. [Md3: The multi-dialect dataset of dialogues](#). In *Interspeech*.
- Ahmed El-Kishky, Vishrav Chaudhary, Francisco Guzmán, and Philipp Koehn. 2020. [CCAligned: A massive collection of cross-lingual web-document pairs](#). In *Proceedings of the 2020 Conference on Empirical Methods in Natural Language Processing (EMNLP)*, pages 5960–5969, Online. Association for Computational Linguistics.
- Ahmed Elhagry and Rawan Gla. 2021. [Egyptian sign language recognition using cnn and lstm](#). *ArXiv*, abs/2107.13647.
- AbdelRahim Elmadany, Ife Adebara, and Muhammad Abdul-Mageed. 2024. [Toucan: Many-to-many translation for 150 African language pairs](#). In *Findings of the Association for Computational Linguistics: ACL 2024*, pages 13189–13206, Bangkok, Thailand. Association for Computational Linguistics.
- Chris C. Emezue and Bonaventure F. P. Dossou. 2020a. [Lanfrica: A participatory approach to documenting machine translation research on african languages](#). *ArXiv*, abs/2008.07302.
- Chris Chinenye Emezue and Femi Pancrace Bonaventure Dossou. 2020b. [FFR v1.1: Fon-French neural machine translation](#). In *Proceedings of the Fourth Widening Natural Language Processing Workshop*, pages 83–87, Seattle, USA. Association for Computational Linguistics.
- Chris Chinenye Emezue, Ifeoma Okoh, Chinedu Emmanuel Mbonu, Chiamaka Chukwuneke, Daisy Monika Lal, Ignatius Ezeani, Paul Rayson, Ijemima Onwuzulike, Chukwuma Onyebuchi Okeke, Gerald Okey Nweya, Bright Ikechukwu Ogbonna, Chukwuebuka Uchenna Oraegbunam, Esther Chidinma Awo-Ndubuisi, and Akudo Amarachukwu Osuagwu. 2024. [The IgboAPI dataset: Empowering Igbo language technologies through multi-dialectal enrichment](#). In *Proceedings of the 2024 Joint International Conference on Computational Linguistics, Language Resources and Evaluation (LREC-COLING 2024)*, pages 15932–15941, Torino, Italia. ELRA and ICCL.
- Fahim Faisal, Orevaoghene Ahia, Aarohi Srivastava, Kabir Ahuja, David Chiang, Yulia Tsvetkov, and Antonios Anastasopoulos. 2024. [DIALECTBENCH: An NLP benchmark for dialects, varieties, and closely-related languages](#). In *Proceedings of the 62nd Annual Meeting of the Association for Computational Linguistics (Volume 1: Long Papers)*, pages 14412–14454, Bangkok, Thailand. Association for Computational Linguistics.
- Fahim Faisal, Sharlina Keshava, Md Mahfuz Ibn Alam, and Antonios Anastasopoulos. 2021. [SD-QA: Spoken dialectal question answering for the real world](#). In *Findings of the Association for Computational Linguistics: EMNLP 2021*, pages 3296–3315, Punta Cana, Dominican Republic. Association for Computational Linguistics.
- Angela Fan, Shruti Bhosale, Holger Schwenk, Zhiyi Ma, Ahmed El-Kishky, Siddharth Goyal, Mandeep Baines, Onur Çelebi, Guillaume Wenzek, Vishrav Chaudhary, Naman Goyal, Tom Birch, Vitaliy Liptchinsky, Sergey Edunov, Edouard Grave, Michael Auli, and Armand Joulin. 2020. [Beyond english-centric multilingual machine translation](#). *J. Mach. Learn. Res.*, 22:107:1–107:48.

- Christian Federmann, Tom Kocmi, and Ying Xin. 2022. [NTREX-128 – news test references for MT evaluation of 128 languages](#). In *Proceedings of the First Workshop on Scaling Up Multilingual Evaluation*, pages 21–24, Online. Association for Computational Linguistics.
- Fangxiaoyu Feng, Yinfei Yang, Daniel Cer, Naveen Arivazhagan, and Wei Wang. 2022. [Language-agnostic BERT sentence embedding](#). In *Proceedings of the 60th Annual Meeting of the Association for Computational Linguistics (Volume 1: Long Papers)*, pages 878–891, Dublin, Ireland. Association for Computational Linguistics.
- Jack FitzGerald, Christopher Hench, Charith Peris, Scott Mackie, Kay Rottmann, Ana Sanchez, Aaron Nash, Liam Urbach, Vishesh Kakarala, Richa Singh, Swetha Ranganath, Laurie Crist, Misha Britan, Wouter Leeuwis, Gokhan Tur, and Prem Nataraajan. 2023. [MASSIVE: A 1M-example multilingual natural language understanding dataset with 51 typologically-diverse languages](#). In *Proceedings of the 61st Annual Meeting of the Association for Computational Linguistics (Volume 1: Long Papers)*, pages 4277–4302, Toronto, Canada. Association for Computational Linguistics.
- Fitsum Gaim, Wonsuk Yang, and Jong C. Park. 2021. [Tlmd: Tigrinya language modeling dataset](#).
- Iker García-Ferrero, Rodrigo Agerri, and German Rigau. 2023. [T-projection: High quality annotation projection for sequence labeling tasks](#). In *Findings of the Association for Computational Linguistics: EMNLP 2023*, pages 15203–15217, Singapore. Association for Computational Linguistics.
- Tanja Gaustad, Ansu Berg, Rigardt Pretorius, and Roald Eiselen. 2024. [The first Universal Dependency treebank for Tswana: Tswana-popapolelo](#). In *Proceedings of the Fifth Workshop on Resources for African Indigenous Languages @ LREC-COLING 2024*, pages 55–65, Torino, Italia. ELRA and ICCL.
- Tanja Gaustad and Roald Eiselen. 2023. [Exploring afrikaans word embeddings with analogies and nearest neighbours](#). *Journal of the Digital Humanities Association of Southern Africa (DHASA)*.
- Elodie Gauthier, Aminata Ndiaye, and Abdoulaye Guissé. 2024. [Kallaama: A transcribed speech dataset about agriculture in the three most widely spoken languages in Senegal](#). In *Proceedings of the Fifth Workshop on Resources for African Indigenous Languages @ LREC-COLING 2024*, pages 10–19, Torino, Italia. ELRA and ICCL.
- Sebastian Gehrmann, Sebastian Ruder, Vitaly Nikolaev, Jan Botha, Michael Chavinda, Ankur Parikh, and Clara Rivera. 2023. [TaTA: A multilingual table-to-text dataset for African languages](#). In *Findings of the Association for Computational Linguistics: EMNLP 2023*, pages 1719–1740, Singapore. Association for Computational Linguistics.
- Gemma Team, Morgane Riviere, Shreya Pathak, Pier Giuseppe Sessa, Cassidy Hardin, Surya Bhupatiraju, Léonard Hussenot, Thomas Mesnard, Bobak Shahriari, Alexandre Ramé, Johan Ferret, Peter Liu, Pouya Tafti, Abe Friesen, Michelle Casbon, Sabela Ramos, Ravin Kumar, Charline Le Lan, Sammy Jerome, and 178 others. 2024. [Gemma 2: Improving open language models at a practical size](#). *Preprint*, arXiv:2408.00118.
- Andargachew Mekonnen Gezmu, Tirufat Tesifaye Lema, Binyam Ephrem Seyoum, and A. Nürnberger. 2021a. [Manually annotated spelling error corpus for amharic](#). In *AfricaNLP*.
- Andargachew Mekonnen Gezmu, Binyam Ephrem Seyoum, Michael Gasser, and A. Nürnberger. 2021b. [Contemporary amharic corpus: Automatically morpho-syntactically tagged amharic corpus](#). *ArXiv*, abs/2106.07241.
- Naman Goyal, Cynthia Gao, Vishrav Chaudhary, Peng-Jen Chen, Guillaume Wenzek, Da Ju, Sanjana Krishnan, Marc’Aurelio Ranzato, Francisco Guzmán, and Angela Fan. 2022. [The Flores-101 evaluation benchmark for low-resource and multilingual machine translation](#). *Transactions of the Association for Computational Linguistics*, 10:522–538.
- Marissa Griesel and Sonja E. Bosch. 2020. [Navigating challenges of multilingual resource development for under-resourced languages: The case of the african wordnet project](#). In *RAIL*.
- Richard Griscom. 2020. [Mobilizing metadata: Open data kit \(odk\) for language resource development in east africa](#). In *RAIL*.
- Dagmar Gromann, Hugo Goncalo Oliveira, Lucia Pitarch, Elena-Simona Apostol, Jordi Bernad, Eliot Bytyçi, Chiara Cantone, Sara Carvalho, Francesca Frontini, Radovan Garabik, Jorge Gracia, Letizia Granata, Fahad Khan, Timotej Knez, Penny Labropoulou, Chaya Liebeskind, Maria Pia Di Buono, Ana Ostroški Anić, Sigita Rackevičienė, and 12 others. 2024. [MultiLexBATS: Multilingual dataset of lexical semantic relations](#). In *Proceedings of the 2024 Joint International Conference on Computational Linguistics, Language Resources and Evaluation (LREC-COLING 2024)*, pages 11783–11793, Torino, Italia. ELRA and ICCL.
- Aditi Sharma Grover, Karen Calteaux, Gerhard van Huyssteen, and Marthinus Pretorius. 2010. [An overview of hlt for south african bantu languages](#). In *Proceedings of the 2010 Annual Research Conference of the South African Institute of Computer Scientists and Information Technologists, SAICSIT ’10*, page 370–375, New York, NY, USA. Association for Computing Machinery.
- Shester Gueuwou, Sophie Siake, Colin Leong, and Mathias Müller. 2023a. [JWSign: A highly multilingual corpus of Bible translations for more diversity in sign language processing](#). In *Findings of the*

- Association for Computational Linguistics: EMNLP 2023*, pages 9907–9927, Singapore. Association for Computational Linguistics.
- Shester Gueuwou, Kate Takyi, Mathias Müller, Marco Nyarko, Richard Adade, and Rose-Mary Owusu Mensah Gyening. 2023b. *Afrisign: Machine translation for african sign languages*. In *AfricaNLP*.
- Elisa Gugliotta and Marco Dinarelli. 2020. *TArC: Incrementally and semi-automatically collecting a Tunisian Arabish corpus*. In *Proceedings of the Twelfth Language Resources and Evaluation Conference*, pages 6279–6286, Marseille, France. European Language Resources Association.
- Barry Haddow, Rachel Bawden, Antonio Valerio Miceli Barone, Jindřich Helcl, and Alexandra Birch. 2022. *Survey of low-resource machine translation*. *Computational Linguistics*, 48(3):673–732.
- Asmelash Teka Hadgu, Abel Aregawi, and Adam Beaudoin. 2021. *Lesan - machine translation for low resource languages*. *ArXiv*, abs/2112.08191.
- Tjerk Hagemeijer, Amália Mendes, Rita Gonçalves, Catarina Cornejo, Raquel Madureira, and Michel Génèreux. 2022a. *The PALMA corpora of African varieties of Portuguese*. In *Proceedings of the Thirteenth Language Resources and Evaluation Conference*, pages 5047–5053, Marseille, France. European Language Resources Association.
- Tjerk Hagemeijer, Amália Mendes, Rita Gonçalves, Catarina Cornejo, Raquel Madureira, and Michel Génèreux. 2022b. *The palma corpora of african varieties of portuguese*. In *International Conference on Language Resources and Evaluation*.
- Goitom Ybrah Hailu and Shishay Welay. 2024. *Deep learning based amharic chatbot for faqs in universities*. *ArXiv*, abs/2402.01720.
- Injy Hamed, Fadhl Eryani, David Palfreyman, and Nizar Habash. 2024. *ZAEBUC-spoken: A multilingual multidialectal Arabic-English speech corpus*. In *Proceedings of the 2024 Joint International Conference on Computational Linguistics, Language Resources and Evaluation (LREC-COLING 2024)*, pages 1770–17782, Torino, Italia. ELRA and ICCL.
- Injy Hamed, Nizar Habash, and Thang Vu. 2023. *Data augmentation techniques for machine translation of code-switched texts: A comparative study*. In *Findings of the Association for Computational Linguistics: EMNLP 2023*, pages 140–154, Singapore. Association for Computational Linguistics.
- H Hammarström, R Forkel, and M Haspelmath. 2024. *Bank, s. glottolog/glottolog: Glottolog database 5.1*. *Zenodo* <https://doi.org/10.5281/zenodo.10804357>.
- Tahmid Hasan, Abhik Bhattacharjee, Md. Saiful Islam, Kazi Mubasshir, Yuan-Fang Li, Yong-Bin Kang, M. Sohel Rahman, and Rifat Shahriyar. 2021. *XL-sum: Large-scale multilingual abstractive summarization for 44 languages*. In *Findings of the Association for Computational Linguistics: ACL-IJCNLP 2021*, pages 4693–4703, Online. Association for Computational Linguistics.
- Ali Hatami, Shubhanker Banerjee, Mihael Arcan, Paul Buitelaar, and John Philip McCrae. 2024. *English-to-low-resource translation: A multimodal approach for Hindi, Malayalam, Bengali, and Hausa*. In *Proceedings of the Ninth Conference on Machine Translation*, pages 815–822, Miami, Florida, USA. Association for Computational Linguistics.
- Pengcheng He, Jianfeng Gao, and Weizhu Chen. 2021. *Debertav3: Improving deberta using electra-style pre-training with gradient-disentangled embedding sharing*. *ArXiv*, abs/2111.09543.
- Michael A. Hedderich, David I. Adelani, Dawei Zhu, Jesujoba Alabi, Udia Markus, and Dietrich Klakow. 2020. *Transfer learning and distant supervision for multilingual transformer models: A study on African languages*. In *Proceedings of the 2020 Conference on Empirical Methods in Natural Language Processing (EMNLP)*, pages 2580–2591, Online. Association for Computational Linguistics.
- Michael A. Hedderich, Lukas Lange, Heike Adel, Jan-nik Strötgen, and Dietrich Klakow. 2021. *A survey on recent approaches for natural language processing in low-resource scenarios*. In *Proceedings of the 2021 Conference of the North American Chapter of the Association for Computational Linguistics: Human Language Technologies*, pages 2545–2568, Online. Association for Computational Linguistics.
- Kevin Heffernan, Onur Çelebi, and Holger Schwenk. 2022. *Bitext mining using distilled sentence representations for low-resource languages*. In *Findings of the Association for Computational Linguistics: EMNLP 2022*, pages 2101–2112, Abu Dhabi, United Arab Emirates. Association for Computational Linguistics.
- Lars Hellan. 2020. *A computational grammar of ga*. In *RAIL*.
- Santiago Herrera, Caio Corro, and Sylvain Kahane. 2024. *Sparse logistic regression with high-order features for automatic grammar rule extraction from tree-banks*. In *Proceedings of the 2024 Joint International Conference on Computational Linguistics, Language Resources and Evaluation (LREC-COLING 2024)*, pages 15114–15125, Torino, Italia. ELRA and ICCL.
- Junjie Hu, Sebastian Ruder, Aditya Siddhant, Graham Neubig, Orhan Firat, and Melvin Johnson. 2020. *Xtreme: A massively multilingual multi-task benchmark for evaluating cross-lingual generalization*. *ArXiv*, abs/2003.11080.
- Catherine Ikae and Mascha Kurpicz-Briki. 2024. *Current state-of-the-art of bias detection and mitigation in machine translation for african and european languages: a review*. *ArXiv*, abs/2410.21126.

- Comfort Ilevbare, Jesujoba Alabi, David Ifeoluwa Adelani, Firdous Bakare, Oluwatoyin Abiola, and Oluwaseyi Adeyemo. 2024. [EkoHate: Abusive language and hate speech detection for code-switched political discussions on Nigerian Twitter](#). In *Proceedings of the 8th Workshop on Online Abuse and Harms (WOAH 2024)*, pages 28–37, Mexico City, Mexico. Association for Computational Linguistics.
- Ayyoob Imani, Peiqin Lin, Amir Hossein Kargaran, Silvia Severini, Masoud Jalili Sabet, Nora Kassner, Chunlan Ma, Helmut Schmid, André Martins, François Yvon, and Hinrich Schütze. 2023. [Glot500: Scaling multilingual corpora and language models to 500 languages](#). In *Proceedings of the 61st Annual Meeting of the Association for Computational Linguistics (Volume 1: Long Papers)*, pages 1082–1117, Toronto, Canada. Association for Computational Linguistics.
- Isa Inuwa-Dutse. 2025. [Naijanlp: A survey of nigerian low-resource languages](#). *Preprint*, arXiv:2502.19784.
- Olájidé Ishola and Daniel Zeman. 2020. [Yorùbá dependency treebank \(YTB\)](#). In *Proceedings of the Twelfth Language Resources and Evaluation Conference*, pages 5178–5186, Marseille, France. European Language Resources Association.
- Amel Issa. 2023. [Durational and non-durational correlates of lexical and derived geminates in arabic](#). In *Interspeech 2023*, pages 4753–4757.
- Sheriff M Issaka, Zhaoyi Zhang, Mihir Heda, Keyi Wang, Yinka Ajibola, Ryan DeMar, and Xuefeng Du. 2024. [The ghanaian nlp landscape: A first look](#). *ArXiv*, abs/2405.06818.
- Christiaan Jacobs. 2024. [Multilingual acoustic word embeddings for zero-resource languages](#). *ArXiv*, abs/2401.10543.
- Chris Jenkins, Shantanu Agarwal, Joel Barry, Steven Fincke, and Elizabeth Boschee. 2023. [Massively multi-lingual event understanding: Extraction, visualization, and search](#). In *Proceedings of the 61st Annual Meeting of the Association for Computational Linguistics (Volume 3: System Demonstrations)*, pages 247–256, Toronto, Canada. Association for Computational Linguistics.
- Shaoxiong Ji, Zihao Li, Indraneil Paul, Jaakko Paavola, Peiqin Lin, Pinzhen Chen, Dayy’an O’Brien, Hengyu Luo, Hinrich Schütze, Jörg Tiedemann, and Barry Haddow. 2024. [Emma-500: Enhancing massively multilingual adaptation of large language models](#). *ArXiv*, abs/2409.17892.
- Toheeb A. Jimoh, Tabea De Wille, and Nikola S. Nikolov. 2025. [Bridging gaps in natural language processing for yorùbá: a systematic review of a decade of progress and prospects](#). *Preprint*, arXiv:2502.17364.
- Pratik Joshi, Sebastin Santy, Amar Budhiraja, Kalika Bali, and Monojit Choudhury. 2020. [The state and fate of linguistic diversity and inclusion in the NLP world](#). In *Proceedings of the 58th Annual Meeting of the Association for Computational Linguistics*, pages 6282–6293, Online. Association for Computational Linguistics.
- Odunayo Jude Ogundepo, Akintunde Oladipo, Mofetoluwa Adeyemi, Kelechi Ogueji, and Jimmy Lin. 2022. [AfriTeVA: Extending ‘small data’ pretraining approaches to sequence-to-sequence models](#). In *Proceedings of the Third Workshop on Deep Learning for Low-Resource Natural Language Processing*, pages 126–135, Hybrid. Association for Computational Linguistics.
- Amir Hossein Kargaran, Ayyoob Imani, François Yvon, and Hinrich Schuetze. 2023. [GlotLID: Language identification for low-resource languages](#). In *Findings of the Association for Computational Linguistics: EMNLP 2023*, pages 6155–6218, Singapore. Association for Computational Linguistics.
- Amir Hossein Kargaran, Francois Yvon, and Hinrich Schutze. 2024a. [Glotcc: An open broad-coverage commoncrawl corpus and pipeline for minority languages](#). *ArXiv*, abs/2410.23825.
- Amir Hossein Kargaran, François Yvon, and Hinrich Schütze. 2024b. [GlotScript: A resource and tool for low resource writing system identification](#). In *Proceedings of the 2024 Joint International Conference on Computational Linguistics, Language Resources and Evaluation (LREC-COLING 2024)*, pages 7774–7784, Torino, Italia. ELRA and ICCL.
- Catharina Maria Keet. 2022. [Bootstrapping nlp tools across low-resourced african languages: an overview and prospects](#). *ArXiv*, abs/2210.12027.
- Mamadou K. Keita, Christopher Homan, Sofiane Hamani, Adwoa Bremang, Marcos Zampieri, Habibatou Abdoulaye Alfari, Elysabhet Amadou Ibrahim, and Dennis Owusu. 2024. [Grammatical error correction for low-resource languages: The case of zarma](#). *ArXiv*, abs/2410.15539.
- Lennart Keller and Goran Glavas. 2024. [Speechtaxi: On multilingual semantic speech classification](#). *ArXiv*, abs/2409.06372.
- Aditi Khandelwal, Utkarsh Agarwal, Kumar Tanmay, and Monojit Choudhury. 2024. [Do moral judgment and reasoning capability of LLMs change with language? a study using the multilingual defining issues test](#). In *Proceedings of the 18th Conference of the European Chapter of the Association for Computational Linguistics (Volume 1: Long Papers)*, pages 2882–2894, St. Julian’s, Malta. Association for Computational Linguistics.
- Nataliia Kholodna, Sahib Julka, Mohammad Khodadadi, Muhammed Nurullah Gumus, and Michael Granitzer. 2024. [Llms in the loop: Leveraging large language model annotations for active learning in low-resource languages](#). *ArXiv*, abs/2404.02261.

- Ussen Kimanuka, Ciira wa Maina, and Osman Büyüç. 2024. [Speech recognition datasets for low-resource congolese languages](#). *Data in Brief*, 52:109796.
- Steven Kolawole, Opeyemi Osakuade, Nayan Saxena, and Babatunde Kazeem Olorisade. 2022. [Sign-to-speech model for sign language understanding: A case study of nigerian sign language](#). In *Proceedings of the Thirty-First International Joint Conference on Artificial Intelligence, IJCAI-22*, pages 5924–5927. International Joint Conferences on Artificial Intelligence Organization. Demo Track.
- Moshe Koppel and Noam Ordan. 2011. [Translationese and its dialects](#). In *Proceedings of the 49th Annual Meeting of the Association for Computational Linguistics: Human Language Technologies*, pages 1318–1326, Portland, Oregon, USA. Association for Computational Linguistics.
- Julia Kreutzer, Isaac Caswell, Lisa Wang, Ahsan Wahab, Daan van Esch, Nasanbayer Ulzii-Orshikh, Allahsera Tapo, Nishant Subramani, Artem Sokolov, Claytone Sikasote, Monang Setyawan, Supheakmunkol Sarin, Sokhar Samb, Benoît Sagot, Clara Rivera, Annette Rios, Isabel Papadimitriou, Salomey Osei, Pedro Ortiz Suarez, and 33 others. 2022. [Quality at a glance: An audit of web-crawled multilingual datasets](#). *Transactions of the Association for Computational Linguistics*, 10:50–72.
- Sneha Kudugunta, Isaac Caswell, Biao Zhang, Xavier García, Christopher A. Choquette-Choo, Katherine Lee, Derrick Xin, Aditya Kusupati, Romi Stella, Ankur Bapna, and Orhan Firat. 2023. [Madlad-400: A multilingual and document-level large audited dataset](#). *ArXiv*, abs/2309.04662.
- Heather Lent, Kushal Tatariya, Raj Dabre, Yiyi Chen, Marcell Fekete, Esther Ploeger, Li Zhou, Ruth-Ann Armstrong, Abee Ejiansantos, Catriona Malau, Hans Erik Heje, Ernests Lavrinovics, Diptesh Kanojia, Paul Belony, Marcel Bollmann, Loïc Grobol, Miryam de Lhoneux, Daniel Hershcovich, Michel DeGraff, and 2 others. 2024. [CreoleVal: Multilingual multitask benchmarks for creoles](#). *Transactions of the Association for Computational Linguistics*, 12:950–978.
- Colin Leong, Joshua Nemecek, Jacob Mansdorfer, Anna Filighera, Abraham Owodunni, and Daniel Whitenack. 2022. [Bloom library: Multimodal datasets in 300+ languages for a variety of downstream tasks](#). In *Proceedings of the 2022 Conference on Empirical Methods in Natural Language Processing*, pages 8608–8621, Abu Dhabi, United Arab Emirates. Association for Computational Linguistics.
- Xinjian Li, Florian Metze, David R. Mortensen, Alan W Black, and Shinji Watanabe. 2022. [Asr2k: Speech recognition for around 2000 languages without audio](#). In *Interspeech 2022*, pages 4885–4889.
- Xinjian Li, Shinnosuke Takamichi, Takaaki Saeki, William Chen, Sayaka Shiota, and Shinji Watanabe. 2023. [Yodas: Youtube-oriented dataset for audio and speech](#). *2023 IEEE Automatic Speech Recognition and Understanding Workshop (ASRU)*, pages 1–8.
- Xi Victoria Lin, Todor Mihaylov, Mikel Artetxe, Tianlu Wang, Shuohui Chen, Daniel Simig, Myle Ott, Naman Goyal, Shruti Bhosale, Jingfei Du, Ramakanth Pasunuru, Sam Shleifer, Punit Singh Koura, Vishrav Chaudhary, Brian O’Horo, Jeff Wang, Luke Zettlemoyer, Zornitsa Kozareva, Mona Diab, and 2 others. 2022. [Few-shot learning with multilingual generative language models](#). In *Proceedings of the 2022 Conference on Empirical Methods in Natural Language Processing*, pages 9019–9052, Abu Dhabi, United Arab Emirates. Association for Computational Linguistics.
- Yu-Hsiang Lin, Chian-Yu Chen, Jean Lee, Zirui Li, Yuyan Zhang, Mengzhou Xia, Shruti Rijhwani, Junxian He, Zhisong Zhang, Xuezhe Ma, Antonios Anastopoulos, Patrick Littell, and Graham Neubig. 2019. [Choosing transfer languages for cross-lingual learning](#). In *Proceedings of the 57th Annual Meeting of the Association for Computational Linguistics*, pages 3125–3135, Florence, Italy. Association for Computational Linguistics.
- Yihong Liu, Peiqin Lin, Mingyang Wang, and Hinrich Schuetze. 2024. [OFA: A framework of initializing unseen subword embeddings for efficient large-scale multilingual continued pretraining](#). In *Findings of the Association for Computational Linguistics: NAACL 2024*, pages 1067–1097, Mexico City, Mexico. Association for Computational Linguistics.
- Yihong Liu, Haotian Ye, Leonie Weissweiler, Renhao Pei, and Hinrich Schuetze. 2023. [Crosslingual transfer learning for low-resource languages based on multilingual colexification graphs](#). In *Findings of the Association for Computational Linguistics: EMNLP 2023*, pages 8376–8401, Singapore. Association for Computational Linguistics.
- Yinquan Lu, Wenhao Zhu, Lei Li, Yu Qiao, and Fei Yuan. 2024. [LLaMAX: Scaling linguistic horizons of LLM by enhancing translation capabilities beyond 100 languages](#). In *Findings of the Association for Computational Linguistics: EMNLP 2024*, pages 10748–10772, Miami, Florida, USA. Association for Computational Linguistics.
- Florian Lux, Sarina Meyer, Lyonel Behringer, Frank Zalkow, Phat Do, Matt Coler, Emanuel A. P. Habets, and Ngoc Thang Vu. 2024. [Meta Learning Text-to-Speech Synthesis in over 7000 Languages](#). In *Interspeech 2024*, pages 4958–4962.
- Chunlan Ma, Ayyoob ImaniGooghari, Haotian Ye, Ehsaneddin Asgari, and Hinrich Schütze. 2023. [Taxi1500: A multilingual dataset for text classification in 1500 languages](#). *Preprint*, arXiv:2305.08487.
- Min Ma, Yuma Koizumi, Shigeki Karita, Heiga Zen, Jason Riesa, Haruko Ishikawa, and Michiel Bacchiani.

2024. [Fleurs-r: A restored multilingual speech corpus for generation tasks](#). In *Interspeech 2024*, pages 1835–1839.
- Ronny Mabokela, Mpho Roborife, and Turguy Celik. 2023. [Investigating sentiment-bearing words- and emoji-based distant supervision approaches for sentiment analysis](#). In *Proceedings of the Fourth workshop on Resources for African Indigenous Languages (RAIL 2023)*, pages 115–125, Dubrovnik, Croatia. Association for Computational Linguistics.
- Aymen Ben Elhaj Mabrouk, Moez Ben Haj Hmida, Chayma Fourati, Hatem Haddad, and Abir Mes-saudi. 2021. [A multilingual african embedding for faq chatbots](#). *ArXiv*, abs/2103.09185.
- Jabez Magomere, Shu Ishida, Tejumade Afonja, Aya Salama, Daniel Kochin, Yuehgo Foutse, Imane Hamzaoui, Raesetje Sefala, Aisha Alaagib, Samantha Dalal, Beatrice Marchegiani, Elizaveta Semenova, Lauren Crais, and Siobhan Mackenzie Hall. 2025. [The world wide recipe: A community-centred framework for fine-grained data collection and regional bias operationalisation](#). In *Proceedings of the 2025 ACM Conference on Fairness, Accountability, and Transparency, FAccT '25*, page 246–282, New York, NY, USA. Association for Computing Machinery.
- Lucas Maison and Y. Estève. 2023. [Improving accented speech recognition with multi-domain training](#). *ICASSP 2023 - 2023 IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP)*, pages 1–5.
- Vukosi Marivate, Moseli Mots’oehli, Valencia Wagner, Richard Lastrucci, and Isheanesu Dzingirai. 2023. [Puoberta: Training and evaluation of a curated language model for setswana](#). *ArXiv*, abs/2310.09141.
- Vukosi Marivate, T. Sefara, Vongani Chabalala, Keamogetswe Makhaya, Tumisho Billson Mokgonyane, Rethabile Mokoena, and Abiodun Modupe. 2020. [Investigating an approach for low resource language dataset creation, curation and classification: Setswana and sepedi](#). In *RAIL*.
- Gati Martin, Medard Edmund Mswahili, Young-Seob Jeong, and Jiyoung Woo. 2022. [SwahBERT: Language model of Swahili](#). In *Proceedings of the 2022 Conference of the North American Chapter of the Association for Computational Linguistics: Human Language Technologies*, pages 303–313, Seattle, United States. Association for Computational Linguistics.
- Pierrette Mahoro Mastel, Ester Namara, Aime Munezero, Richard Kagame, Zihan Wang, Allan Anzagira, Akshat Gupta, and Jema David Ndibwile. 2023. [Natural language understanding for african languages](#). In *AfricaNLP*.
- Kaushal Maurya and Maunendra Desarkar. 2022. [Meta- \$x_{NLP}\$: A meta-learning approach based on language clustering for zero-shot cross-lingual transfer and generation](#). In *Findings of the Association for Computational Linguistics: ACL 2022*, pages 269–284, Dublin, Ireland. Association for Computational Linguistics.
- Rendani Mbuva, David Ifeoluwa Adelani, Tendani Mutavhatsindi, Tshimangadzo Rakhuhu, Aluwani Mauda, Tshifhiwa Joshua Maumela, Andisani Masindi, Seani Rananga, Vukosi Marivate, and T. Marwala. 2023. [Mphayaner: Named entity recognition for tshivenda](#). *ArXiv*, abs/2304.03952.
- Amanuel Mersha and Stephen Wu. 2020. [Morphology-rich alphasyllabary embeddings](#). In *Proceedings of the Twelfth Language Resources and Evaluation Conference*, pages 2590–2595, Marseille, France. European Language Resources Association.
- Francois Meyer and Jan Buys. 2022. [Subword segmental language modelling for nguni languages](#). In *Findings of the Association for Computational Linguistics: EMNLP 2022*, pages 6636–6649, Abu Dhabi, United Arab Emirates. Association for Computational Linguistics.
- Francois Meyer, Haiyue Song, Abhisek Chakrabarty, Jan Buys, Raj Dabre, and Hideki Tanaka. 2024. [NGLUEni: Benchmarking and adapting pretrained language models for nguni languages](#). In *Proceedings of the 2024 Joint International Conference on Computational Linguistics, Language Resources and Evaluation (LREC-COLING 2024)*, pages 12247–12258, Torino, Italia. ELRA and ICCL.
- Josh Meyer, David Adelani, Edresson Casanova, Alp Öktem, Daniel Whitenack, Julian Weber, Salomon KABONGO KABENAMUALU, Elizabeth Salesky, Iroro Orife, Colin Leong, Perez Ogayo, Chris Chinenye Emezue, Jonathan Mukiibi, Salomey Osei, Apelete AGBOLO, Victor Akinode, Bernard Opoku, Olanrewaju Samuel, Jesujoba Alabi, and Shamsuddeen Hassan Muhammad. 2022. [Biblets: a large, high-fidelity, multilingual, and uniquely african speech corpus](#). In *Interspeech 2022*, pages 2383–2387.
- Seyed Morteza Mirbostani, Yasaman Boreshban, Salam Khalifa, SeyedAbolghasem Mirroshandel, and Owen Rambow. 2023. [Deep active learning for morphophonological processing](#). In *Proceedings of the 61st Annual Meeting of the Association for Computational Linguistics (Volume 2: Short Papers)*, pages 793–803, Toronto, Canada. Association for Computational Linguistics.
- Nikita Moghe, Evgeniia Razumovskaia, Liane Guillou, Ivan Vulić, Anna Korhonen, and Alexandra Birch. 2023. [Multi3NLU++: A multilingual, multi-intent, multi-domain dataset for natural language understanding in task-oriented dialogue](#). In *Findings of the Association for Computational Linguistics: ACL 2023*, pages 3732–3755, Toronto, Canada. Association for Computational Linguistics.

- Shafie Abdi Mohamed and Muhidin A. Mohamed. 2023. [Lexicon and rule-based word lemmatization approach for somali language](#). In *AfricaNLP*.
- Alireza Mohammadshahi, Vassilina Nikoulina, Alexandre Berard, Caroline Brun, James Henderson, and Laurent Besacier. 2022a. [SMaLL-100: Introducing shallow multilingual machine translation model for low-resource languages](#). In *Proceedings of the 2022 Conference on Empirical Methods in Natural Language Processing*, pages 8348–8359, Abu Dhabi, United Arab Emirates. Association for Computational Linguistics.
- Alireza Mohammadshahi, Vassilina Nikoulina, Alexandre Berard, Caroline Brun, James Henderson, and Laurent Besacier. 2022b. [What do compressed multilingual machine translation models forget?](#) In *Findings of the Association for Computational Linguistics: EMNLP 2022*, pages 4308–4329, Abu Dhabi, United Arab Emirates. Association for Computational Linguistics.
- Jama Hussein Mohamud, Lloyd Thompson, Aïssatou Ndoye, and Laurent Besacier. 2021. [Fast development of asr in african languages using self supervised speech representation learning](#). *ArXiv*, abs/2103.08993.
- Mahmud Mohammed Momoh. 2024. [Lateral inversions, word form/order, unnamed grammatical entities and ambiguities in the constituency parsing and annotation of the Igala syntax through the English language](#). In *Proceedings of the Fifth Workshop on Resources for African Indigenous Languages @ LREC-COLING 2024*, pages 152–162, Torino, Italia. ELRA and ICCL.
- Marius Mosbach, Vagrant Gautam, Tomás Vergara Browne, Dietrich Klakow, and Mor Geva. 2024. [From insights to actions: The impact of interpretability and analysis research on NLP](#). In *Proceedings of the 2024 Conference on Empirical Methods in Natural Language Processing*, pages 3078–3105, Miami, Florida, USA. Association for Computational Linguistics.
- Leila Moudjari, Karima Akli-Astouati, and Farah Benamara. 2020. [An Algerian corpus and an annotation platform for opinion and emotion analysis](#). In *Proceedings of the Twelfth Language Resources and Evaluation Conference*, pages 1202–1210, Marseille, France. European Language Resources Association.
- Basel Mousi, Nadir Durrani, Fatema Ahmad, Md Arif Hasan, Maram Hasanain, Tameem Kabbani, Fahim Dalvi, Shammur A. Chowdhury, and Firoj Alam. 2024. [Aradice: Benchmarks for dialectal and cultural capabilities in llms](#). *ArXiv*, abs/2409.11404.
- Niklas Muennighoff, Thomas Wang, Lintang Sutawika, Adam Roberts, Stella Biderman, Teven Le Scao, M Saiful Bari, Sheng Shen, Zheng Xin Yong, Hailey Schoelkopf, Xiangru Tang, Dragomir Radev, Alham Fikri Aji, Khalid Almubarak, Samuel Albanie, Zaid Alyafeai, Albert Webson, Edward Raff, and Colin Raffel. 2023. [Crosslingual generalization through multitask finetuning](#). In *Proceedings of the 61st Annual Meeting of the Association for Computational Linguistics (Volume 1: Long Papers)*, pages 15991–16111, Toronto, Canada. Association for Computational Linguistics.
- Shamsuddeen Hassan Muhammad, Idris Abdulmumin, Abinew Ali Ayele, Nedjma Ousidhoum, David Ifeoluwa Adelani, Seid Muhie Yimam, Ibrahim Sa’id Ahmad, Meriem Beloucif, Saif M. Mohammad, Sebastian Ruder, Oumaima Hourrane, Pavel Brazdil, Alipio Jorge, Felermino Dário Mário António Ali, Davis David, Salomey Osei, Bello Shehu Bello, Falalu Ibrahim, Tajuddeen Gwadabe, and 8 others. 2023. [AfriSenti: A Twitter sentiment analysis benchmark for African languages](#). In *Proceedings of the 2023 Conference on Empirical Methods in Natural Language Processing*, pages 13968–13981, Singapore. Association for Computational Linguistics.
- Shamsuddeen Hassan Muhammad, David Ifeoluwa Adelani, Sebastian Ruder, Ibrahim Sa’id Ahmad, Idris Abdulmumin, Bello Shehu Bello, Monojit Choudhury, Chris Chinenye Emezue, Saheed Salahudeen Abdullahi, Anuoluwapo Aremu, Alípio Jorge, and Pavel Brazdil. 2022. [NaijaSenti: A Nigerian Twitter sentiment corpus for multilingual sentiment analysis](#). In *Proceedings of the Thirteenth Language Resources and Evaluation Conference*, pages 590–602, Marseille, France. European Language Resources Association.
- Benson K. Muite and Kichakato Kizito. 2022. [An open source system for crowd sourcing an african language short story corpus](#). *Journal of the Digital Humanities Association of Southern Africa (DHASA)*, 3(03).
- Joaquim Mussandi and Andreas Wichert. 2024. [NLP tools for African languages: Overview](#). In *Proceedings of the 16th International Conference on Computational Processing of Portuguese - Vol. 2*, pages 73–82, Santiago de Compostela, Galicia/Spain. Association for Computational Linguistics.
- Junho Myung, Nayeon Lee, Yi Zhou, Jiho Jin, Rifki Afina Putri, Dimosthenis Antypas, Hsuvas Borkakoty, Eunsu Kim, Carla Perez-Almendros, Abinew Ali Ayele, Victor Gutierrez Basulto, Yazmin Ibanez-Garcia, Hwaran Lee, Shamsuddeen Hassan Muhammad, Kiwoong Park, Anar Sabuhi Rzayev, Nina White, Seid Muhie Yimam, Mohammad Taher Pilehvar, and 3 others. 2024a. [BLEnd: A benchmark for LLMs on everyday knowledge in diverse cultures and languages](#). In *The Thirty-eight Conference on Neural Information Processing Systems Datasets and Benchmarks Track*.
- Junho Myung, Nayeon Lee, Yi Zhou, Jiho Jin, Rifki Afina Putri, Dimosthenis Antypas, Hsuvas Borkakoty, Eunsu Kim, Carla Pérez-Almendros, Abinew Ali Ayele, V’ictor Guti’errez-Basulto, Yazm’in Ib’anez-Garc’ia, Hwaran Lee, Shamsuddeen Hassan Muhammad, Kiwoong Park, Anar

- Rzayev, Nina White, Seid Muhie Yimam, Mohammad Taher Pilehvar, and 3 others. 2024b. [Blend: A benchmark for llms on everyday knowledge in diverse cultures and languages](#). *ArXiv*, abs/2406.09948.
- Shravan Nayak, Kanishk Jain, Rabiul Awal, Siva Reddy, Sjoerd Van Steenkiste, Lisa Anne Hendricks, Karolina Stanczak, and Aishwarya Agrawal. 2024. [Benchmarking vision language models for cultural understanding](#). In *Proceedings of the 2024 Conference on Empirical Methods in Natural Language Processing*, pages 5769–5790, Miami, Florida, USA. Association for Computational Linguistics.
- Innocent Ndubuisi-Obi, Sayan Ghosh, and David Jurgens. 2019. [Wetin dey with these comments? modeling sociolinguistic factors affecting code-switching behavior in Nigerian online discussions](#). In *Proceedings of the 57th Annual Meeting of the Association for Computational Linguistics*, pages 6204–6214, Florence, Italy. Association for Computational Linguistics.
- Elhadji Mamadou Nguer, Alla Lo, Cheikh M. Bamba Dione, Sileye O. Ba, and Moussa Lo. 2020. [SEN-CORPUS: A French-Wolof parallel corpus](#). In *Proceedings of the Twelfth Language Resources and Evaluation Conference*, pages 2803–2811, Marseille, France. European Language Resources Association.
- Thao Nguyen, Matthew Wallingford, Sebastin Santy, Wei-Chiu Ma, Sewoong Oh, Ludwig Schmidt, Pang Wei Koh, and Ranjay Krishna. 2024a. [Multilingual diversity improves vision-language representations](#). In *Advances in Neural Information Processing Systems*, volume 37, pages 91430–91459. Curran Associates, Inc.
- Thuat Nguyen, Chien Van Nguyen, Viet Dac Lai, Hieu Man, Nghia Trung Ngo, Franck Dernoncourt, Ryan A. Rossi, and Thien Huu Nguyen. 2024b. [CulturaX: A cleaned, enormous, and multilingual dataset for large language models in 167 languages](#). In *Proceedings of the 2024 Joint International Conference on Computational Linguistics, Language Resources and Evaluation (LREC-COLING 2024)*, pages 4226–4237, Torino, Italia. ELRA and ICCL.
- Hellina Hailu Nigatu, Atnafu Lambebo Tonja, Benjamin Rosman, Tamar Solorio, and Monojit Choudhury. 2024. [The zeno’s paradox of ‘low-resource’ languages](#). In *Proceedings of the 2024 Conference on Empirical Methods in Natural Language Processing*, pages 17753–17774, Miami, Florida, USA. Association for Computational Linguistics.
- Charles Nimo, Tobi Olatunji, Abraham Toluwase Owodunni, Tassallah Abdullahi, Emmanuel Ayodele, Mardhiyah Sanni, Ezinwanne C. Aka, Fola-funmi Omofoye, Foutse Yuehgoh, Timothy Faniran, Bonaventure F. P. Dossou, Moshood O. Yekini, Jonas Kemp, Katherine A Heller, Jude Chidubem Omeke, Chidi Asuzu Md, Naome A Etori, Aïmérou Ndiaye, Ifeoma Okoh, and 7 others. 2025. [AfriMed-QA: A pan-African, multi-specialty, medical question-answering benchmark dataset](#). In *Proceedings of the 63rd Annual Meeting of the Association for Computational Linguistics (Volume 1: Long Papers)*, pages 1948–1973, Vienna, Austria. Association for Computational Linguistics.
- Rubungo Andre Niyongabo, Qu Hong, Julia Kreutzer, and Li Huang. 2020. [KINNEWS and KIRNEWS: Benchmarking cross-lingual text classification for Kinyarwanda and Kirundi](#). In *Proceedings of the 28th International Conference on Computational Linguistics*, pages 5507–5521, Barcelona, Spain (Online). International Committee on Computational Linguistics.
- NLLB Team and 1 others. 2024. Scaling neural machine translation to 200 languages. *Nature*, 630(8018):841.
- Leanne Nortje, Dan Oneață, and Herman Kamper. 2024. [Improved visually prompted keyword localisation in real low-resource settings](#). *ArXiv*, abs/2409.06013.
- Ebelechukwu Nwafor and Anietie Andy. 2022. [A survey of machine translation tasks on Nigerian languages](#). In *Proceedings of the Thirteenth Language Resources and Evaluation Conference*, pages 6480–6486, Marseille, France. European Language Resources Association.
- Antoine Nzeyimana. 2020. [Morphological disambiguation from stemming data](#). In *Proceedings of the 28th International Conference on Computational Linguistics*, pages 4649–4660, Barcelona, Spain (Online). International Committee on Computational Linguistics.
- Antoine Nzeyimana and Andre Niyongabo Rubungo. 2022. [KinyaBERT: a morphology-aware Kinyarwanda language model](#). In *Proceedings of the 60th Annual Meeting of the Association for Computational Linguistics (Volume 1: Long Papers)*, pages 5347–5363, Dublin, Ireland. Association for Computational Linguistics.
- Saint Germes Bienvenu Bengono Obiang, Norbert Tsopze, Paulin Melatagia Yonta, Jean-François Bonastre, and Tania Jiménez. 2024. [Improving tone recognition performance using wav2vec 2.0-based learned representation in yoruba, a low-resourced language](#). *ACM Trans. Asian Low Resour. Lang. Inf. Process.*, 23:172:1–172:11.
- Perez Ogayo, Graham Neubig, and Alan W Black. 2022. [Building african voices](#). In *Interspeech 2022*, pages 1263–1267.
- Kelechi Ogueji, Yuxin Zhu, and Jimmy Lin. 2021. [Small data? no problem! exploring the viability of pretrained multilingual language models for low-resourced languages](#). In *Proceedings of the 1st Workshop on Multilingual Representation Learning*, pages 116–126, Punta Cana, Dominican Republic. Association for Computational Linguistics.

- Sewade Ogun, Abraham Owodunni, Tobi Olatunji, Eniola Alese, Babatunde Oladimeji, Tejumade Afonja, Kayode Olaleye, Naome A. Etori, and Tosin P. Adewumi. 2024a. [1000 african voices: Advancing inclusive multi-speaker multi-accent speech synthesis](#). *ArXiv*, abs/2406.11727.
- Sewade Ogun, Abraham T. Owodunni, Tobi Olatunji, Eniola Alese, Babatunde Oladimeji, Tejumade Afonja, Kayode Olaleye, Naome A. Etori, and Tosin Adewumi. 2024b. [1000 african voices: Advancing inclusive multi-speaker multi-accent speech synthesis](#). In *Interspeech 2024*, pages 1855–1859.
- Odunayo Ogundepo, Tajuddeen R. Gwadabe, Clara E. Rivera, Jonathan H. Clark, Sebastian Ruder, David Ifeoluwa Adelani, Bonaventure F. P. Dossou, Abdou Aziz Diop, Claytone Sikasote, Gilles Hacheme, Happy Buzaaba, Ignatius Ezeani, Roowether Mabuya, Salomey Osei, Chris Emezue, Albert Njoroge Kahira, Shamsuddeen Hassan Muhammad, Akintunde Oladipo, Abraham Toluwase Owodunni, and 33 others. 2023. [AfriQA: Cross-lingual open-retrieval question answering for African languages](#). In *Findings of the Association for Computational Linguistics: EMNLP 2023*, pages 14957–14972, Singapore. Association for Computational Linguistics.
- Tolulope Ogunremi, Kola Tubosun, Anuoluwapo Aremu, Iroko Orife, and David Ifeoluwa Adelani. 2024. [IròyìnSpeech: A multi-purpose Yorùbá speech corpus](#). In *Proceedings of the 2024 Joint International Conference on Computational Linguistics, Language Resources and Evaluation (LREC-COLING 2024)*, pages 9296–9303, Torino, Italia. ELRA and ICCL.
- Jessica Ojo, Odunayo Ogundepo, Akintunde Oladipo, Kelechi Ogueji, Jimmy Lin, Pontus Stenetorp, and David Ifeoluwa Adelani. 2025. [AfroBench: How good are large language models on African languages?](#) In *Findings of the Association for Computational Linguistics: ACL 2025*, pages 19048–19095, Vienna, Austria. Association for Computational Linguistics.
- Alp Öktem, Eric DeLuca, Rodrigue Bashizi, Eric Paquin, and Grace Tang. 2021. [Congolese swahili machine translation for humanitarian response](#). *ArXiv*, abs/2103.10734.
- Akintunde Oladipo. 2024. Scaling pre-training data and language models for african languages. *MSc Thesis, University of Waterloo*.
- Akintunde Oladipo, Mofetoluwa Adeyemi, Orevaoghene Ahia, Abraham Toluwalase Owodunni, Odunayo Ogundepo, David Ifeoluwa Adelani, and Jimmy Lin. 2023. [Better quality pre-training data and t5 models for African languages](#). In *Proceedings of the 2023 Conference on Empirical Methods in Natural Language Processing*, pages 158–168, Singapore. Association for Computational Linguistics.
- Kayode Olaleye, Dan Oneață, and Herman Kamper. 2022. [Yfacc: A yorùbá speech–image dataset for cross-lingual keyword localisation through visual grounding](#). *2022 IEEE Spoken Language Technology Workshop (SLT)*, pages 731–738.
- Tobi Olatunji, Tejumade Afonja, Bonaventure F. P. Dossou, Atnafu Lambebo Tonja, Chris Chinenye Emezue, Amina Mardiyah Rufai, and Sahib Singh. 2023a. [Afrinames: Most asr models "butcher" african names](#). In *Interspeech 2023*, pages 5077–5081.
- Tobi Olatunji, Tejumade Afonja, Aditya Yadavalli, Chris Chinenye Emezue, Sahib Singh, Bonaventure F. P. Dossou, Joanne Osuchukwu, Salomey Osei, Atnafu Lambebo Tonja, Naome Etori, and Clinton Mbataku. 2023b. [AfriSpeech-200: Pan-African accented speech dataset for clinical and general domain ASR](#). *Transactions of the Association for Computational Linguistics*, 11:1669–1685.
- Akindele Michael Olawole, Jesujoba Oluwadara Alabi, Aderonke Busayo Sakpere, and David Ifeoluwa Adelani. 2024. [Yad: Leveraging t5 for improved automatic diacritization of yorùbá text](#). *ArXiv*, abs/2412.20218.
- Opeyemi Osakuade and Simon King. 2024. [Do discrete self-supervised representations of speech capture tone distinctions?](#) *ArXiv*, abs/2410.19935.
- Adama Ouane and Christine Glanz. 2010. *Why and How Africa Should Invest in African Languages and Multilingual Education: An Evidence-and Practice-Based Policy Advocacy Brief*. ERIC.
- Nedjma Ousidhoum, Shamsuddeen Hassan Muhammad, Mohamed Abdalla, Idris Abdulmumin, Ibrahim Said Ahmad, Sanchit Ahuja, Alham Fikri Aji, Vladimir Araujo, Meriem Beloucif, Christine De Kock, Oumaima Hourrane, Manish Shrivastava, Thamar Solorio, Nirmal Surange, Krishnapriya Vishnubhotla, Seid Muhie Yimam, and Saif M. Mohammad. 2024. [SemEval task 1: Semantic textual relatedness for African and Asian languages](#). In *Proceedings of the 18th International Workshop on Semantic Evaluation (SemEval-2024)*, pages 1963–1978, Mexico City, Mexico. Association for Computational Linguistics.
- Jessica Ouyang, Boya Song, and Kathy McKeown. 2019. [A robust abstractive system for cross-lingual summarization](#). In *Proceedings of the 2019 Conference of the North American Chapter of the Association for Computational Linguistics: Human Language Technologies, Volume 1 (Long and Short Papers)*, pages 2025–2031, Minneapolis, Minnesota. Association for Computational Linguistics.
- Wuraola Fisayo Oyewusi, Olubayo Adekanmbi, Ife Okoh, Vitus Onuigwe, Mary Idera Salami, Opeyemi Osakuade, Sharon Ibeji, and Usman Abdullahi Musa. 2021. [Naijaner : Comprehensive named entity recognition for 5 nigerian languages](#). *ArXiv*, abs/2105.00810.

- Xiaoman Pan, Boliang Zhang, Jonathan May, Joel Nothman, Kevin Knight, and Heng Ji. 2017. [Cross-lingual name tagging and linking for 282 languages](#). In *Proceedings of the 55th Annual Meeting of the Association for Computational Linguistics (Volume 1: Long Papers)*, pages 1946–1958, Vancouver, Canada. Association for Computational Linguistics.
- Rock Yuren Pang, Hope Schroeder, Kynneddy Simone Smith, Solon Barocas, Ziang Xiao, Emily Tseng, and Danielle Bragg. 2025. [Understanding the llmification of chi: Unpacking the impact of llms at chi through a systematic literature review](#). In *Proceedings of the 2025 CHI Conference on Human Factors in Computing Systems*, CHI '25, New York, NY, USA. Association for Computing Machinery.
- Guilherme Penedo, Hynek Kydlíček, Loubna Ben Alal, Anton Lozhkov, Margaret Mitchell, Colin Raffel, Leandro von Werra, and Thomas Wolf. 2024. [The fineweb datasets: Decanting the web for the finest text data at scale](#). *ArXiv*, abs/2406.17557.
- Jonas Pfeiffer, Francesco Piccinno, Massimo Nicosia, Xinyi Wang, Machel Reid, and Sebastian Ruder. 2023. [mmT5: Modular multilingual pre-training solves source language hallucinations](#). In *Findings of the Association for Computational Linguistics: EMNLP 2023*, pages 1978–2008, Singapore. Association for Computational Linguistics.
- Jonas Pfeiffer, Ivan Vulić, Iryna Gurevych, and Sebastian Ruder. 2021. [UNks everywhere: Adapting multilingual language models to new scripts](#). In *Proceedings of the 2021 Conference on Empirical Methods in Natural Language Processing*, pages 10186–10203, Online and Punta Cana, Dominican Republic. Association for Computational Linguistics.
- Edoardo Maria Ponti, Goran Glavaš, Olga Majewska, Qianchu Liu, Ivan Vulić, and Anna Korhonen. 2020. [XCOPA: A multilingual dataset for causal common-sense reasoning](#). In *Proceedings of the 2020 Conference on Empirical Methods in Natural Language Processing (EMNLP)*, pages 2362–2376, Online. Association for Computational Linguistics.
- Vineel Pratap, Andros Tjandra, Bowen Shi, Paden Tomasello, Arun Babu, Sayani Kundu, Ali Elkahky, Zhaoheng Ni, Apoorv Vyas, Maryam Fazel-Zarandi, Alexei Baevski, Yossi Adi, Xiaohui Zhang, Wei-Ning Hsu, Alexis Conneau, and Michael Auli. 2024. [Scaling speech technology to 1,000+ languages](#). *Journal of Machine Learning Research*, 25(1).
- Martin J. Puttkammer and Jakobus S. Du Toit. 2021. [Canonical segmentation and syntactic morpheme tagging of four resource- scarce nguni languages](#). *Journal of the Digital Humanities Association of Southern Africa (DHASA)*.
- Faisal Qarah. 2024. [Egybert: A large language model pretrained on egyptian dialect corpora](#). *ArXiv*, abs/2408.03524.
- Osvaldo Luamba Quinjica and David Ifeoluwa Adelani. 2024. [Angofa: Leveraging ofa embedding initialization and synthetic data for angolan language model](#). *ArXiv*, abs/2404.02534.
- Afshin Rahimi, Yuan Li, and Trevor Cohn. 2019. [Massively multilingual transfer for NER](#). In *Proceedings of the 57th Annual Meeting of the Association for Computational Linguistics*, pages 151–164, Florence, Italy. Association for Computational Linguistics.
- Jenalea Rajab, Anuoluwapo Aremu, Everlyn Asiko Chimoto, Dale Dunbar, Graham Morrissey, Fadel Thior, Luandrie Potgieter, Jessico Ojo, Atnafu Lambebo Tonja, Maushami Chetty, Onyothi Nekoto, Pelonomi Moiloa, Jade Abbott, Vukosi Marivate, and Benjamin Rosman. 2025. [The esethu framework: Reimagining sustainable dataset governance and curation for low-resource languages](#). *ArXiv*, abs/2502.15916.
- Sello Ralethe. 2020. [Adaptation of deep bidirectional transformers for Afrikaans language](#). In *Proceedings of the Twelfth Language Resources and Evaluation Conference*, pages 2475–2478, Marseille, France. European Language Resources Association.
- Simon P. Ramalepe, Thipe Isaiah Modipa, and Marelie Hattingh Davel. 2023. [The analysis of the sepedi-english code-switched radio news corpus](#). *Journal of the Digital Humanities Association of Southern Africa (DHASA)*.
- Falia Ramanantsoa. 2023. [Voxmg: An automatic speech recognition dataset for malagasy](#). In *AfricaNLP*.
- Vipul Rathore, Rajdeep Dhingra, Parag Singla, and Mausam. 2023. [ZGUL: Zero-shot generalization to unseen languages using multi-source ensembling of language adapters](#). In *Proceedings of the 2023 Conference on Empirical Methods in Natural Language Processing*, pages 6969–6987, Singapore. Association for Computational Linguistics.
- Machel Reid, Junjie Hu, Graham Neubig, and Yutaka Matsuo. 2021. [AfroMT: Pretraining strategies and reproducible benchmarks for translation of 8 African languages](#). In *Proceedings of the 2021 Conference on Empirical Methods in Natural Language Processing*, pages 1306–1320, Online and Punta Cana, Dominican Republic. Association for Computational Linguistics.
- Sandy Ritchie, Daan van Esch, Uche Okonkwo, Shikhar Vashishth, and Emily Drummond. 2024. [Linguameta: Unified metadata for thousands of languages](#). In *Proceedings of the Joint International Conference on Computational Linguistics, Language Resources and Evaluation*, pages 10530–10538, Torino, Italy. European Language Resources Association.
- Nathaniel Robinson, Raj Dabre, Ammon Shurtz, Rasul Dent, Onenamiyi Ones, Claire Monroc, Loïc Grobol, Hasan Muhammad, Ashi Garg, Naome Etori, Vijay Murari Tiyyala, Olanrewaju Samuel, Matthew Stutzman, Bismarck Odoom, Sanjeev Khudanpur, Stephen Richardson, and Kenton Murray.

2024. [Kreyòl-MT: Building MT for Latin American, Caribbean and colonial African creole languages](#). In *Proceedings of the 2024 Conference of the North American Chapter of the Association for Computational Linguistics: Human Language Technologies (Volume 1: Long Papers)*, pages 3083–3110, Mexico City, Mexico. Association for Computational Linguistics.
- David Romero, Chenyang Lyu, Haryo Akbarianto Wibowo, Teresa Lynn, Injy Hamed, Aditya Nanda Kishore, Aishik Mandal, Alina Dragonetti, Artem Abzaliev, Atnafu Lambebo Tonja, Bontu Fufa Balcha, Chenxi Whitehouse, Christian Salamea, Dan John Velasco, David Ifeoluwa Adelani, David Le Meur, Emilio Villa-Cueva, Fajri Koto, Fauzan Farooqui, and 56 others. 2024. [Cvqa: Culturally-diverse multilingual visual question answering benchmark](#). *Preprint*, arXiv:2406.05967.
- Sebastian Ruder, Jonathan H. Clark, Alexander Gutkin, Mihir Kale, Min Ma, Massimo Nicosia, Shruti Rijhwani, Parker Riley, Jean-Michel A Sarr, Xinyi Wang, John Wieting, Nitish Gupta, Anna Katanova, Christo Kirov, Dana L. Dickinson, Brian Roark, Bidisha Samanta, Connie Tao, David I. Adelani, and 8 others. 2023. [XTREME-UP: A user-centric scarce-data benchmark for under-represented languages](#). In *Findings of the Association for Computational Linguistics: EMNLP 2023*, pages 1856–1884, Singapore. Association for Computational Linguistics.
- Muhammed Saeed, Peter Bourgonje, and Vera Demberg. 2024. [Implicit discourse relation classification for nigerian pidgin](#). *Preprint*, arXiv:2406.18776.
- Ramon Sanabria, Nikolay Bogoychev, Nina Markl, Andrea Carmantini, Ondrej Klejch, and Peter Bell. 2023. [The edinburgh international accents of english corpus: Towards the democratization of english asr](#). *ICASSP 2023 - 2023 IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP)*, pages 1–5.
- Felipe Sánchez-Martínez, Víctor M. Sánchez-Cartagena, Juan Antonio Pérez-Ortiz, Mikel L. Forcada, Miquel Esplà-Gomis, Andrew Secker, Susie Coleman, and Julie Wall. 2020. [An English-Swahili parallel corpus and its use for neural machine translation in the news domain](#). In *Proceedings of the 22nd Annual Conference of the European Association for Machine Translation*, pages 299–308, Lisboa, Portugal. European Association for Machine Translation.
- Teven Le Scao, Angela Fan, Christopher Akiki, Ellie Pavlick, Suzana Ilić, Daniel Hesslow, Roman Castagné, Alexandra Sasha Luccioni, François Yvon, Matthias Gallé, Jonathan Tow, Alexander M. Rush, Stella Biderman, Albert Webson, Pawan Sasanka Ammanamanchi, Thomas Wang, Benoît Sagot, Niklas Muennighoff, Albert Villanova del Moral, and 7 others. 2022. [Bloom: A 176b-parameter open-access multilingual language model](#). *ArXiv*, abs/2211.05100.
- Fabian David Schmidt, Ivan Vulić, and Goran Glavaš. 2023a. [Free lunch: Robust cross-lingual transfer via model checkpoint averaging](#). In *Proceedings of the 61st Annual Meeting of the Association for Computational Linguistics (Volume 1: Long Papers)*, pages 5712–5730, Toronto, Canada. Association for Computational Linguistics.
- Fabian David Schmidt, Ivan Vulić, and Goran Glavaš. 2023b. [One for all & all for one: Bypassing hyperparameter tuning with model averaging for cross-lingual transfer](#). In *Findings of the Association for Computational Linguistics: EMNLP 2023*, pages 12186–12193, Singapore. Association for Computational Linguistics.
- Jonathan Schoots. 2023. [Analyzing political formation through historical isixhosa text analysis: Using frequency analysis to examine emerging african nationalism in south africa](#). In *RAIL*.
- Holger Schwenk, Vishrav Chaudhary, Shuo Sun, Hongyu Gong, and Francisco Guzmán. 2021. [WikiMatrix: Mining 135M parallel sentences in 1620 language pairs from Wikipedia](#). In *Proceedings of the 16th Conference of the European Chapter of the Association for Computational Linguistics: Main Volume*, pages 1351–1361, Online. Association for Computational Linguistics.
- Djamé Seddah, Farah Essaidi, Amal Fethi, Matthieu Futral, Benjamin Muller, Pedro Javier Ortiz Suárez, Benoît Sagot, and Abhishek Srivastava. 2020. [Building a user-generated content North-African Arabizi treebank: Tackling hell](#). In *Proceedings of the 58th Annual Meeting of the Association for Computational Linguistics*, pages 1139–1150, Online. Association for Computational Linguistics.
- Sheikh Shafayat, Eunsu Kim, Juhyun Oh, and Alice Oh. 2024. [Multi-FACT: Assessing factuality of multilingual LLMs using Factscore](#). In *First Conference on Language Modeling*.
- Alexander Shan, John Bauer, Riley Carlson, and Christopher Manning. 2023. [Do “English” named entity recognizers work well on global englishes?](#) In *Findings of the Association for Computational Linguistics: EMNLP 2023*, pages 11778–11791, Singapore. Association for Computational Linguistics.
- Freda Shi, Mirac Suzgun, Markus Freitag, Xuezhi Wang, Suraj Srivats, Soroush Vosoughi, Hyung Won Chung, Yi Tay, Sebastian Ruder, Denny Zhou, Dipanjan Das, and Jason Wei. 2023. [Language models are multilingual chain-of-thought reasoners](#). In *The Eleventh International Conference on Learning Representations*.
- Oleh Shliazhko, Alena Fenogenova, Maria Tikhonova, Anastasia Kozlova, Vladislav Mikhailov, and Tatiana Shavrina. 2024. [mGPT: Few-shot learners go multilingual](#). *Transactions of the Association for Computational Linguistics*, 12:58–79.

- Iyanuoluwa Shode, David Ifeoluwa Adelani, Jing Peng, and Anna Feldman. 2023. [NollySenti: Leveraging transfer learning and machine translation for Nigerian movie sentiment classification](#). In *Proceedings of the 61st Annual Meeting of the Association for Computational Linguistics (Volume 2: Short Papers)*, pages 986–998, Toronto, Canada. Association for Computational Linguistics.
- Johannes Sibeko and Mmasibidi Setaka. 2022. An overview of sesotho blark content. *Journal of the Digital Humanities Association of Southern Africa*, 4(01).
- Johannes Sibeko and Mmasibidi Setaka. 2023. [Evaluating the sesotho rule-based syllabification system on sepedi and setswana words](#). In *Proceedings of the Fourth workshop on Resources for African Indigenous Languages (RAIL 2023)*, pages 76–85, Dubrovnik, Croatia. Association for Computational Linguistics.
- Johannes Sibeko and Menno van Zaanen. 2024. [Developing and testing syllabification systems for south african sesotho](#). *Language Resources and Evaluation*.
- Claytone Sikasote, Eunice Mukonde, Md Mahfuz Ibn Alam, and Antonios Anastasopoulos. 2023a. [BIG-C: a multimodal multi-purpose dataset for Bemba](#). In *Proceedings of the 61st Annual Meeting of the Association for Computational Linguistics (Volume 1: Long Papers)*, pages 2062–2078, Toronto, Canada. Association for Computational Linguistics.
- Claytone Sikasote, Kalinda Siaminwe, Stanly Mwape, Bangiwe Zulu, Mofya Phiri, Martin Phiri, David Zulu, Mayumbo Nyirenda, and Antonios Anastasopoulos. 2023b. [Zambezi voice: A multilingual speech corpus for zambian languages](#). In *Interspeech 2023*, pages 3984–3988.
- Shivalika Singh, Freddie Vargus, Daniel D’souza, Börje Karlsson, Abinaya Mahendiran, Wei-Yin Ko, Herumb Shandilya, Jay Patel, Deividas Mataciunas, Laura O’Mahony, Mike Zhang, Ramith Hettiarachchi, Joseph Wilson, Marina Machado, Luisa Moura, Dominik Krzemiński, Hakimeh Fadaei, Irem Ergun, Ifeoma Okoh, and 14 others. 2024. [Aya dataset: An open-access collection for multilingual instruction tuning](#). In *Proceedings of the 62nd Annual Meeting of the Association for Computational Linguistics (Volume 1: Long Papers)*, pages 11521–11567, Bangkok, Thailand. Association for Computational Linguistics.
- Abderrahman Skiredj, Ferdaous Azhari, Ismail Berrada, and Saad Ezzini. 2024. [Darijabanking: A new resource for overcoming language barriers in banking intent detection for moroccan arabic speakers](#). *ArXiv*, abs/2405.16482.
- Nikita Soni, Lucie Flek, Ashish Sharma, Diyi Yang, Sara Hooker, and H. Andrew Schwartz, editors. 2024. [Proceedings of the 1st Human-Centered Large Language Modeling Workshop](#). ACL, TBD.
- Kenneth Steimel and Sandra Kübler. 2023. [Towards a Swahili Universal Dependency treebank: Leveraging the annotations of the Helsinki corpus of Swahili](#). In *Proceedings of the Fourth workshop on Resources for African Indigenous Languages (RAIL 2023)*, pages 86–96, Dubrovnik, Croatia. Association for Computational Linguistics.
- Martha Yifiru Tachbelie, Solomon Teferra Abate, and Tanja Schultz. 2020. [Development of multilingual asr using globalphone for less-resourced languages: The case of ethiopian languages](#). In *Interspeech*.
- Ephrem Tadesse, Rosa Tsegaye, and Kuulaa Qaqqabaa. 2020. [Event extraction from unstructured Amharic text](#). In *Proceedings of the Twelfth Language Resources and Evaluation Conference*, pages 2103–2109, Marseille, France. European Language Resources Association.
- Tilahun Abedissa Taffa, Ricardo Usbeck, and Yaregal Assabie. 2024. [Low resource question answering: An Amharic benchmarking dataset](#). In *Proceedings of the Fifth Workshop on Resources for African Indigenous Languages @ LREC-COLING 2024*, pages 124–132, Torino, Italia. ELRA and ICCL.
- Elvis Mboning Tchiaze, Jean Marc Bassahak, Daniel Baleba, Ornella Wandji, and Jules Assoumou. 2020. [Building collaboration-based resources in endowed african languages: Case of ntealan dictionaries platform](#). In *RAIL*.
- Mesmin Tchindjang, Athanase Bopda, and Louise Angéline Ngamgne. 2008. Languages and cultural identities in africa. *Museum International*, 60(3):37–50.
- Daniela Teodorescu and Saif Mohammad. 2023. [Evaluating emotion arcs across languages: Bridging the global divide in sentiment analysis](#). In *Findings of the Association for Computational Linguistics: EMNLP 2023*, pages 4124–4137, Singapore. Association for Computational Linguistics.
- Jan W. F. Thirion, Charl Johannes van Heerden, Oluwapelumi Giwa, and Marelle Hattingh Davel. 2020. [The south african directory enquiries \(sade\) name corpus](#). *Language Resources and Evaluation*, 54:155–184.
- Huu Nguyen Thuat Nguyen and Thien Nguyen. 2024. [Culturay: A large cleaned multilingual dataset of 75 languages](#).
- Atnafu Lambebo Tonja, Israel Abebe Azime, Tadesse Destaw Belay, Mesay Gemedo Yigezu, Moges Ahmed Ah Mehamed, Abinew Ali Ayele, Ebrahim Chekol Jibril, Michael Melese Woldeyohannis, Olga Kolesnikova, Philipp Slusallek, Dietrich Klakow, and Seid Muhie Yimam. 2024a. [EthioLLM: Multilingual large language models for Ethiopian languages with task evaluation](#). In *Proceedings of the 2024 Joint International Conference on Computational Linguistics, Language Resources and Evaluation (LREC-COLING 2024)*, pages 6341–6352, Torino, Italia. ELRA and ICCL.

- Atnafu Lambebo Tonja, Tadesse Destaw Belay, Israel Abebe Azime, Abinew Ali Ayele, Moges Ahmed Mehamed, Olga Kolesnikova, and Seid Muhie Yimam. 2023. [Natural language processing in Ethiopian languages: Current state, challenges, and opportunities](#). In *Proceedings of the Fourth workshop on Resources for African Indigenous Languages (RAIL 2023)*, pages 126–139, Dubrovnik, Croatia. Association for Computational Linguistics.
- Atnafu Lambebo Tonja, Bonaventure F. P. Dossou, Jessica Ojo, Jenalea Rajab, Fadel Thior, Eric Peter Wairagala, Aremu Anuoluwapo, Pelonomi Moiloa, Jade Abbott, Vukosi Marivate, and Benjamin Rosman. 2024b. [Inkubalm: A small language model for low-resource african languages](#). *ArXiv*, abs/2408.17024.
- Chau Tran, Shruti Bhosale, James Cross, Philipp Koehn, Sergey Edunov, and Angela Fan. 2021. [Facebook AI’s WMT21 news translation task submission](#). In *Proceedings of the Sixth Conference on Machine Translation*, pages 205–215, Online. Association for Computational Linguistics.
- Kosei Uemura, Mahe Chen, Alex Pejovic, Chika Maduabuchi, Yifei Sun, and En-Shiun Annie Lee. 2024. [AfriInstruct: Instruction tuning of African languages for diverse tasks](#). In *Findings of the Association for Computational Linguistics: EMNLP 2024*, pages 13571–13585, Miami, Florida, USA. Association for Computational Linguistics.
- Ahmet Üstün, Viraat Aryabumi, Zheng Yong, Wei-Yin Ko, Daniel D’souza, Gbemileke Onilude, Neel Bhandari, Shivalika Singh, Hui-Lee Ooi, Amr Kayid, Freddie Vargus, Phil Blunsom, Shayne Longpre, Niklas Muennighoff, Marzieh Fadaee, Julia Kreutzer, and Sara Hooker. 2024. [Aya model: An instruction fine-tuned open-access multilingual language model](#). In *Proceedings of the 62nd Annual Meeting of the Association for Computational Linguistics (Volume 1: Long Papers)*, pages 15894–15939, Bangkok, Thailand. Association for Computational Linguistics.
- David Uthus, Santiago Ontanon, Joshua Ainslie, and Mandy Guo. 2023. [mLongT5: A multilingual and efficient text-to-text transformer for longer sequences](#). In *Findings of the Association for Computational Linguistics: EMNLP 2023*, pages 9380–9386, Singapore. Association for Computational Linguistics.
- Jörgen Valk and Tanel Alumäe. 2020. [Voxlingua107: A dataset for spoken language recognition](#). *2021 IEEE Spoken Language Technology Workshop (SLT)*, pages 652–658.
- Jesús Villalba, Nanxin Chen, David Snyder, Daniel Garcia-Romero, Alan McCree, Gregory Sell, Jonas Borgstrom, Fred Richardson, Suwon Shon, François Grondin, Réda Dehak, Leibny Paola García-Perera, Daniel Povey, Pedro A. Torres-Carrasquillo, Sanjeev Khudanpur, and Najim Dehak. 2019. [State-of-the-art speaker recognition for telephone and video speech: The jhu-mit submission for nist sre18](#). In *Interspeech 2019*, pages 1488–1492.
- Apoorv Vyas, Srikanth R. Madikeri, and Hervé Bourlard. 2020. [Lattice-free mmi adaptation of self-supervised pretrained acoustic models](#). *ICASSP 2021 - 2021 IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP)*, pages 6219–6223.
- Jiayi Wang, David Ifeoluwa Adelani, Sweta Agrawal, Marek Masiak, Ricardo Rei, Eleftheria Briakou, Marine Carpuat, Xuanli He, Sofia Bourhim, Andiswa Bukula, Muhidin Mohamed, Temitayo Olatoye, Tosin Adewumi, Hamam Mokayed, Christine Mwase, Wangui Kimotho, Foutse Yuehgoh, Anuoluwapo Aremu, Jessica Ojo, and 39 others. 2024a. [AfriMTE and AfriCOMET: Enhancing COMET to embrace under-resourced African languages](#). In *Proceedings of the 2024 Conference of the North American Chapter of the Association for Computational Linguistics: Human Language Technologies (Volume 1: Long Papers)*, pages 5997–6023, Mexico City, Mexico. Association for Computational Linguistics.
- Jiayi Wang, David Ifeoluwa Adelani, and Pontus Stenetorp. 2024b. [Evaluating WMT 2024 metrics shared task submissions on AfriMTE \(the African challenge set\)](#). In *Proceedings of the Ninth Conference on Machine Translation*, pages 505–516, Miami, Florida, USA. Association for Computational Linguistics.
- Xinyi Wang, Sebastian Ruder, and Graham Neubig. 2022. [Expanding pretrained models to thousands more languages via lexicon-based adaptation](#). In *Proceedings of the 60th Annual Meeting of the Association for Computational Linguistics (Volume 1: Long Papers)*, pages 863–877, Dublin, Ireland. Association for Computational Linguistics.
- Barack W. Wanjawa, Lilian D. A. Wanzare, Florence Indede, Owen Mconyango, Lawrence Muchemi, and Edward Ombui. 2023. [Kenswquad—a question answering dataset for swahili low-resource language](#). *ACM Trans. Asian Low-Resour. Lang. Inf. Process.*, 22(4).
- Nick Wilkinson, Astik Biswas, Emre Yilmaz, Febe De Wet, Ewald Van der westhuizen, and Thomas Niesler. 2020. [Semi-supervised acoustic modelling for five-lingual code-switched ASR using automatically-segmented soap opera speech](#). In *Proceedings of the 1st Joint Workshop on Spoken Language Technologies for Under-resourced languages (SLTU) and Collaboration and Computing for Under-Resourced Languages (CCURL)*, pages 70–78, Marseille, France. European Language Resources association.
- Genta Indra Winata, Frederikus Hudi, Patrick Amadeus Irawan, David Anugraha, Rifki Afina Putri, Yutong Wang, Adam Nohejl, Ubaidillah Ariq Prathama, Nedjma Djouhra Ousidhoum, Afifa Amriani, Anar Rzaev, Anirban Das, Ashmari Pramodya, Aulia Adila, Bryan Wilie, Candy Olivia Mawalim, Ching Lam Cheng, Daud Olamide Abolade, Emmanuele Cherisoni, and 32 others. 2024a. [Worldcuisines: A](#)

- massive-scale benchmark for multilingual and multicultural visual question answering on global cuisines. *ArXiv*, abs/2410.12705.
- Genta Indra Winata, Ruochen Zhang, and David Ifeoluwa Adelani. 2024b. **MINERS: Multilingual language models as semantic retrievers**. In *Findings of the Association for Computational Linguistics: EMNLP 2024*, pages 2742–2766, Miami, Florida, USA. Association for Computational Linguistics.
- Linjuan Wu, Zongyi Guo, Baoliang Cui, Haihong Tang, and Weiming Lu. 2023. **Good meta-tasks make a better cross-lingual meta-transfer learning for low-resource languages**. In *Findings of the Association for Computational Linguistics: EMNLP 2023*, pages 7431–7446, Singapore. Association for Computational Linguistics.
- Linting Xue, Aditya Barua, Noah Constant, Rami Al-Rfou, Sharan Narang, Mihir Kale, Adam Roberts, and Colin Raffel. 2022. **ByT5: Towards a token-free future with pre-trained byte-to-byte models**. *Transactions of the Association for Computational Linguistics*, 10:291–306.
- Linting Xue, Noah Constant, Adam Roberts, Mihir Kale, Rami Al-Rfou, Aditya Siddhant, Aditya Barua, and Colin Raffel. 2021. **mT5: A massively multilingual pre-trained text-to-text transformer**. In *Proceedings of the 2021 Conference of the North American Chapter of the Association for Computational Linguistics: Human Language Technologies*, pages 483–498, Online. Association for Computational Linguistics.
- An Yang, Anfeng Li, Baosong Yang, Beichen Zhang, Binyuan Hui, Bo Zheng, Bowen Yu, Chang Gao, Chengen Huang, Chenxu Lv, Chujie Zheng, Dayiheng Liu, Fan Zhou, Fei Huang, Feng Hu, Hao Ge, Haoran Wei, Huan Lin, Jialong Tang, and 41 others. 2024. **Qwen3 technical report**. on *GitHub*.
- Binwei Yao, Ming Jiang, Tara Bobinac, Diyi Yang, and Junjie Hu. 2024. **Benchmarking machine translation with cultural awareness**. In *Findings of the Association for Computational Linguistics: EMNLP 2024*, pages 13078–13096, Miami, Florida, USA. Association for Computational Linguistics.
- Tilahun Yeshambel, Josiane Mothe, and Yaregal Assabie. 2021. **Morphologically annotated amharic text corpora**. *Proceedings of the 44th International ACM SIGIR Conference on Research and Development in Information Retrieval*.
- Michelle Yuan, Mozhi Zhang, Benjamin Van Durme, Leah Findlater, and Jordan Boyd-Graber. 2020. **Inter-active refinement of cross-lingual word embeddings**. In *Proceedings of the 2020 Conference on Empirical Methods in Natural Language Processing (EMNLP)*, pages 5984–5996, Online. Association for Computational Linguistics.
- Bolaji Yusuf and Murat Saraçlar. 2019. **An empirical evaluation of dtw subsampling methods for keyword search**. In *Interspeech*.
- Amr M. Zaki, Mahmoud I. Khalil, and Hazem M. Abbas. 2020. **Amharic abstractive text summarization**. *ArXiv*, abs/2003.13721.
- Marcely Zanon Boito, Fethi Bougares, Florentin Barbier, Souhir Gahbiche, Loïc Barrault, Mickael Rouvier, and Yannick Estève. 2022. **Speech resources in the Tamasheq language**. In *Proceedings of the Thirteenth Language Resources and Evaluation Conference*, pages 2066–2071, Marseille, France. European Language Resources Association.
- Marcely Zanon Boito, Vivek Iyer, Nikolaos Lagos, Laurent Besacier, and Ioan Calapodescu. 2024. **mhubert-147: A compact multilingual hubert model**. In *Interspeech 2024*, pages 3939–3943.
- Armel Randy Zebaze, Benoît Sagot, and Rachel Bawden. 2025. **In-context example selection via similarity search improves low-resource machine translation**. In *Findings of the Association for Computational Linguistics: NAACL 2025*, pages 1222–1252, Albuquerque, New Mexico. Association for Computational Linguistics.
- Miaoran Zhang, Vagrant Gautam, Mingyang Wang, Jesujoba Alabi, Xiaoyu Shen, Dietrich Klakow, and Marius Mosbach. 2024a. **The impact of demonstrations on multilingual in-context learning: A multidimensional analysis**. In *Findings of the Association for Computational Linguistics: ACL 2024*, pages 7342–7371, Bangkok, Thailand. Association for Computational Linguistics.
- Miaoran Zhang, Mingyang Wang, Jesujoba Alabi, and Dietrich Klakow. 2024b. **AAdaM at SemEval-2024 task 1: Augmentation and adaptation for multilingual semantic textual relatedness**. In *Proceedings of the 18th International Workshop on Semantic Evaluation (SemEval-2024)*, pages 800–810, Mexico City, Mexico. Association for Computational Linguistics.
- Xinyu Zhang, Xueguang Ma, Peng Shi, and Jimmy Lin. 2021. **Mr. TyDi: A multi-lingual benchmark for dense retrieval**. In *Proceedings of the 1st Workshop on Multilingual Representation Learning*, pages 127–137, Punta Cana, Dominican Republic. Association for Computational Linguistics.
- Xinyu Zhang, Nandan Thakur, Odunayo Ogundepo, Ehsan Kamalloo, David Alfonso-Hermelo, Xiaoguang Li, Qun Liu, Mehdi Rezagholizadeh, and Jimmy Lin. 2023. **MIRACL: A multilingual retrieval dataset covering 18 diverse languages**. *Transactions of the Association for Computational Linguistics*, 11:1114–1131.
- D. Zhu, Michael A. Hedderich, Fangzhou Zhai, David Ifeoluwa Adelani, and Dietrich Klakow. 2022. **Task-adaptive pre-training for boosting learning with noisy labels: A study on text classification for african languages**. *ArXiv*, abs/2206.01476.
- Dawei Zhu, Xiaoyu Shen, Michael Hedderich, and Dietrich Klakow. 2023. **Meta self-refinement for robust learning with weak supervision**. In *Proceed-*

ings of the 17th Conference of the European Chapter of the Association for Computational Linguistics, pages 1043–1058, Dubrovnik, Croatia. Association for Computational Linguistics.

Yi Zhu, Benjamin Heinzerling, Ivan Vulić, Michael Strube, Roi Reichart, and Anna Korhonen. 2019. [On the importance of subword information for morphological tasks in truly low-resource languages](#). In *Proceedings of the 23rd Conference on Computational Natural Language Learning (CoNLL)*, pages 216–226, Hong Kong, China. Association for Computational Linguistics.

A Data collection venue

We collected data from 11 venue categories, as shown in Table 2. While we report both the total number of papers initially retrieved and those ultimately analyzed, not all venues had retrievable papers, and not all contributed to the final analysis (for example, CSCW, UIST). The ACL Summit category had the fewest papers retrieved, while ArXiv, as expected, had the most. Due to the size, and presence of several irrelevant papers from ArXiv and HCI venues, we filtered them using GPT-4o, as described in Appendix B. In addition to the automatically retrieved papers, we also included expert-recommended papers from various venues. Here, experts refers to African researchers who have contributed to African language research over the past five years.

The following are full names of the conferences, journals and workshop names

1. AAI: Association for the Advancement of Artificial Intelligence
2. CHI: ACM Conference on Human Factors in Computing Systems
3. ACL: Annual Meeting of the Association for Computational Linguistics
4. EACL: European Chapter of the Association for Computational Linguistics
5. LREC: International Conference on Language Resources and Evaluation
6. EMNLP: Conference on Empirical Methods in Natural Language Processing
7. COLING: International Conference on Computational Linguistics
8. ELRA: Language Resources and Evaluation Journal
9. TACL: Transactions of the Association for Computational Linguistics
10. TALLIP: ACM Transactions on Asian and Low-Resource Language Information Processing
11. RAIL: Workshop on Resources for African Indigenous Languages
12. ICASSP: International Conference on Acoustics, Speech, and Signal Processing
13. INTERSPEECH: International Speech Communication Association
14. SLT: IEEE Spoken Language Technology Workshop
15. AfricaNLP: Workshop on African Natural Language Processing
16. DeepLo: Workshop on Deep Learning Approaches for Low-Resource NLP
17. MRL: Workshop on Multilingual Representation Learning
18. WOA: Workshop on Online Abuse and Harms
19. WMT: Conference on Machine Translation
20. EAMT: European Association for Machine Translation
21. MT Summit: Machine Translation Summit
22. TASLP: IEEE/ACM Transactions on Audio, Speech, and Language Processing
23. NeurIPS: Conference on Neural Information Processing Systems
24. ICLR: International Conference on Learning Representations
25. ICML: International Conference on Machine Learning
26. CSCW: Conference on Computer-Supported Cooperative Work & Social Computing
27. UIST: The ACM Symposium on User Interface Software and Technology
28. CIKM: The Conference on Information and Knowledge Management

29. SIGIR: Special Interest Group on Information Retrieval
30. TREC: Text Retrieval Conference
31. WWW: International World Wide Web Conference
32. FAccT: ACM Conference on Fairness, Accountability, and Transparency
33. RANLP: International Conference Recent Advances in Natural Language Processing

B Data filtering

Due to the large volume of papers retrieved from ArXiv and the presence of many irrelevant ones, we opted for a coarse filtering approach rather than a fine-grained one. Specifically, we filtered papers based on whether they were related to natural language processing. To assist with this process, we used GPT-4o. Additionally, we included papers from HCI conferences in this filtering step. To address this, we filtered the papers by prompting GPT-4o¹⁰ to classify them into two categories—relevant and not-relevant—based on their title and abstract (our prompt is provided in Listing 1). We then manually evaluated 100 papers from the automatic filtering—50 from each category—and obtained an accuracy of 99%, with all errors being false negatives.

C Other tasks researchers work on

Semantics Work on semantics include semantic textual relatedness (Ousidhoum et al., 2024) which was run as a shared task, lexical semantic relations (Gromann et al., 2024), and word analogy tasks (Mersha and Wu, 2020; Gaustad and Eiselen, 2023) mostly in the context of word embeddings.

Phonology and Morphology We observed from our analysis that there are papers under phonology, such as those on phonetics (Issa, 2023; Ahn et al., 2023) and syllabification (Sibeko and Setaka, 2023; Sibeko and van Zaanen, 2024), studying these phenomena in both text and speech. In the area of morphology, some papers focus on lemmatization (Mohamed and Mohamed, 2023), morphological segmentation and analysis (Nzeyimana, 2020; Puttkammer and Toit, 2021), and under word segmentation, on tasks like tokenization (Atuhurra et al., 2024; Meyer and Buys, 2022).

Dialogue and Interactive Systems We found a few papers in this category, including the creation of dialogue datasets for some African languages (Adewumi et al., 2023), conversational data for dialects of English such as Nigerian English (Eisenstein et al., 2023), and the development of chatbots (Mabrouk et al., 2021; Hailu and Welay, 2024).

Text with Images or Video: There are a few works on multimodality that combine text with images or video, such as image captioning (Abdulmumin et al., 2022), keyword localization (Olalaye et al., 2022; Nortje et al., 2024), multimodal machine translation (MT) (Abdulmumin et al., 2022; Hatami et al., 2024), text-to-image generation (Leong et al., 2022; Magomere et al., 2025), and visual question answering (Leong et al., 2022). A notable contribution is the development of a multimodal LLM for Amharic (Andersland, 2024). Sign languages, which are inherently multimodal due to their use of visual and spatial cues, have also received attention, with few resource-focused papers addressing sign language recognition (Elhagry and Gla, 2021), sign-to-speech (Kolawole et al., 2022), and sign language translation (Gueuwou et al., 2023b,a).

Language Generation: Our analysis shows that sequence generation tasks—such as text generation (Chang et al., 2020; Ramalepe et al., 2023), text summarization (Ouyang et al., 2019; Zaki et al., 2020; Uthus et al., 2023; Hasan et al., 2021; Pfeiffer et al., 2023), and spelling or grammatical error correction (Adouane et al., 2019; Gezmu et al., 2021a; Keita et al., 2024)—are among the least explored for African languages. Within the text generation category, existing work also includes data-to-text (Gehrmann et al., 2023), question generation (Asai et al., 2024), title or topic generation (Adebara et al., 2024; Meyer et al., 2024), paragraph generation, and automatic diacritization (Olawole et al., 2024; Ojo et al., 2025).

Others: There is also work on discourse relation classification for Nigerian Pidgin (Saeed et al., 2024), and in the context of computational social science and cultural analytics on historical text analysis (Schoots, 2023), dialectal variation analysis (Gugliotta and Dinarelli, 2020; Eisenstein et al., 2023), and modeling social linguistic factors in creoles (Ndubuisi-Obi et al., 2019).

¹⁰the 2024-08-06 version

Category	Venues	#papers	#relevant
<i>Semantic Scholar</i>			
AI Conferences	AAAI, IJCAI	2222	6
ARXIV	arXiv.org	11680	188
HCI Conferences	CHI, AfriCHI, CSCW, UIST	1290	8
IR Knowledge	CIKM, SIGIR, TREC, WWW	1507	8
ML Conferences	Neurips, ICML, ICLR, FAccT	4804	10
NLP Conferences	ACL, COLING, EACL, EMNLP, LREC, NAACL, RANLP	2654	209
NLP Journals	LREA, TACL, TALLIP	124	14
Speech Conference	ICASSP, INTERSPEECH, SLT	2412	92
Speech Journal	TASLP, Speech Communication	279	11
Workshops	AfricaNLP, DeepLo, MRL, WOA, WMT	360	124
ACL Summits	EAMT, MT Summit	52	5
<i>Expert Collection</i>			
	Same venues as above, and others e.g. RAIL	209	209
Total		27617	884

Table 2: **Data statistics** the venues considered for paper collection, the number of unique papers retrieved, and the number of papers that are relevant after annotation.

D Other low-resource techniques

Meta Learning has increasingly been applied to African and other low-resource languages, addressing challenges like scarce labeled data (Lux et al., 2024), noisy supervision (Zhu et al., 2023), and cross-lingual transfer (Wu et al., 2023). Approaches range from cross-lingual adaptation in NLP tasks (e.g., text classification (Zhu et al., 2023), question answering (Wu et al., 2023), dependency parsing (Choenni et al., 2023), text generation (Maurya and Desarkar, 2022)) to low-resource speech recognition (Chen et al., 2024d,e) and even text-to-speech synthesis (Lux et al., 2024), using techniques such as MAML, task-based meta-loss optimization, adversarial representation learning, and dynamic subnetworks. These methods enable models to generalize from resource-rich languages to underrepresented African languages, improve performance in zero- or few-shot settings, and handle noisy or weak supervision effectively.

Annotation Projection (AP) a technique used to transfer labels from a labeled source dataset to an unlabeled target dataset is also used for African languages. Text classification benchmarks covering several African languages like SIB-200 (Adelani et al., 2024) and Taxi-1500 (Ma et al., 2023) are based on this technique, and it has also been shown to work for sequence labeling (García-Ferrero et al., 2023).

Ensemble Learning a technique that combines multiple models usually either by aggregating predictions or representations—is also used in some

of the surveyed literature, including approaches like model fusion (Rathore et al., 2023; Tran et al., 2021).

Multi-task learning (MTL) an approach where a model is trained to perform multiple tasks simultaneously, leveraging shared knowledge across related tasks is also in the reviewed papers (Dossou et al., 2023; Adebara et al., 2023a; Aduragba et al., 2023; Chen et al., 2024a; Wang et al., 2024a).

Active Learning a machine learning approach where models dynamically select the data to train—was shown to be effective for African languages in tasks such as morphophonological processing (Mirbostani et al., 2023), NER (Kholodna et al., 2024), language modeling (Dossou et al., 2022), and MT (Chimoto and Bassett, 2022).

Pruning & Compression (Awobade et al., 2024) studied the effect of compression of language, (Mohammadshahi et al., 2022b) studied the impact of NMT model compression on translation quality, (Ahia et al., 2021)

Dictionary-based NLP There are a few papers in this category. Some focus on creating lexicons for African languages (Emezue et al., 2024), while others explore how to use these existing lexicons—particularly for tasks such as data augmentation (Reid et al., 2021; Wang et al., 2022). Lexicon-based augmentation has proven useful for generating more data for language modeling. Additionally, a few works have shown their usefulness in tasks such as sentiment and emotional analysis (Teodorescu and Mohammad, 2023; Mabokela et al., 2023) for African languages.

Listing 1: Prompt used for filtering the ArXiv and HCI papers

```
You are an expert research assistant in Natural Language Processing (NLP).

Given a paper's title and abstract, decide whether the paper should be classified as
"relevant" or "not relevant".

A paper should be classified as relevant if it is about:
- Natural language processing (NLP) or computational linguistics
- Speech processing (e.g., recognition, synthesis, spoken dialogue)
- Multimodal tasks involving language (e.g., vision-language, speech-text, OCR
  with text processing, audio-text)
- Dataset curation, annotation, or benchmarks for NLP/multimodal tasks
- Core NLP tasks (e.g., text classification, parsing, entity linking,
  translation, summarization, information extraction, question answering,
  dialogue systems, sentiment analysis, semantics, discourse, topic
  classification, misinformation detection)
- Information retrieval, text mining, or data mining involving text or language
  understanding
- Evaluation metrics for NLP tasks (e.g., BLEU, ROUGE, COMET, etc.)
- Language modeling
- Language generation
- Ethics, bias, fairness, interpretability, safety in language technology
  systems
- Human-centered NLP (e.g., user-centered design of language technology, human-
  LLM interaction, social impact of language technology)
- Applied NLP in specialized domains (e.g., agriculture, biomedical, legal,
  education, cultural analytics, computational social science, NLP for social
  good)

Otherwise, the paper should be classified as not relevant.

Output only one label: "relevant" or "not relevant".

Title: "{title}"

Abstract: "{abstract}"
```

Rule-based NLP Several papers involve rule-based NLP in different contexts, including grammar induction (Herrera et al., 2024) and development (Bamutura et al., 2020) through corpus-based rule extraction, rule-based syntactic parsing using formal grammars (Dione, 2020), and event extraction systems that combine handcrafted rules with machine learning (Tadesse et al., 2020). Additionally, rule-based approaches are evaluated for grammatical error correction. These studies showcase the diverse roles rule-based methods continue to play across linguistic resource creation and tasks.

E Comprehensive list of available African language resources

Several language resources have been created for different languages over the last half decade. These resources include datasets, models, toolkits, and lexicons, all designed for various tasks. Some of these developments are supported by different funding sources and community initiatives such as Hau-

saNLP¹¹, and GhanaNLP¹².

E.1 Comprehensive list of datasets and benchmarks

In Table 3, we provide a list of some of the created and publicly released labeled and unlabeled text and audio datasets for African languages across various tasks. While some of these datasets are part of large, curated multilingual language resources, others are tailored to a single language or a small group of languages. The list also includes datasets created for African variants of English (Afonja et al., 2021; Eisenstein et al., 2023; Ogun et al., 2024a). Although a few works were done on African French (Alumäe et al., 2023; Maisson and Estève, 2023) and Portuguese (Hagemeyer et al., 2022b), there were no datasets created.

Although they are not highlighted in the tables, there are also multimodal, multilingual, and multitask benchmarks that have been created

¹¹<https://hausanlp.github.io/>

¹²<https://ghananlp.org/>

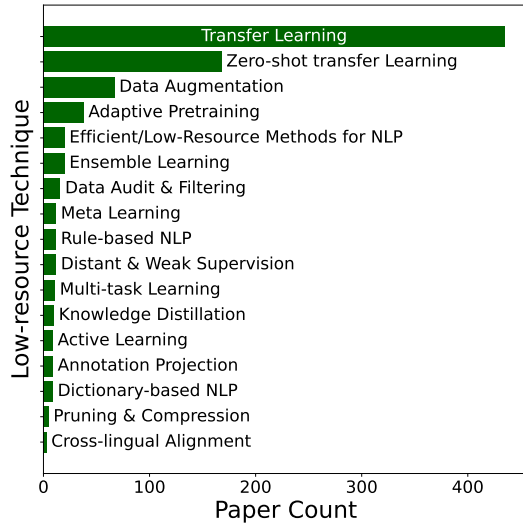


Figure 7: Low-resource techniques used in the analyzed papers.

over the years surveyed—especially in the era of LLMs—to evaluate their generalization and reasoning abilities. They include benchmarks such as BLEnD (Myung et al., 2024b), XTREME (Hu et al., 2020), XTREME-UP (Ruder et al., 2023), IrokoBench (Adelani et al., 2025), MEGAVERSE (Ahuja et al., 2024), and AfroBench (Ojo et al., 2025). There are those specifically tailored towards dialects of languages includes dialects of African languages (Mousi et al., 2024; Faisal et al., 2024) and also creoles which are spoken across Africa (Robinson et al., 2024; Lent et al., 2024).

In addition to data collection, there are also articles focused on African language data curation methodology, identifying challenges and proposing solutions such as creating platforms to support creation and storage (Tchiazee et al., 2020; Griesel and Bosch, 2020; Griscom, 2020; Marivate et al., 2020).

E.2 Comprehensive list of models, toolkits and platforms

Several models have been developed and published for African languages in the surveyed period, spanning a variety of NLP tasks. Two key areas that have seen a proliferation of models are machine translation and language modeling. These models include both language-specific (Emezue and Dossou, 2020b; Adelani et al., 2022a) and multilingual systems (Fan et al., 2020; Elmadany et al., 2024; Mohammadshahi et al., 2022a), largely enabled by the creation of extensive multilingual datasets—such as web-mined bi-texts.

Although these multilingual resources can be

used directly, multiple studies have shown that such models tend to underperform in African languages compared to high-resource languages such as German, French and English (Adelani et al., 2024, 2025). To address this disparity, transfer learning has emerged as an effective strategy: pre-trained multilingual models are adapted to low-resource African languages via task-specific fine-tuning or adaptive pretraining, followed by fine-tuning. These transfer learning techniques help bridge the performance gap by allowing models to leverage knowledge from high-resource languages or related tasks.

Examples of pretrained translation models used in this way include M2M-100 (Fan et al., 2020) and NLLB (NLLB Team et al., 2024), which support a wide range of African languages. For language modeling, models vary across architectural paradigms—encoder-only (Ogueji et al., 2021; Oladipo, 2024; Conneau et al., 2020b; Imani et al., 2023), decoder-only (Xue et al., 2021; Adebara et al., 2024), and encoder-decoder—and in their scope as monolingual (Abdaoui et al., 2021; Chukwuneke et al., 2022; Martin et al., 2022; Nzeyimana and Niyongabo Rubungo, 2022; Olawole et al., 2024) or multilingual systems (Ogueji et al., 2021; Oladipo, 2024; Adebara et al., 2023b).

In recent years, including the period covered by this survey, there has been a surge in the development of general-purpose LLMs, often multilingual and containing billions of parameters. These models support zero-shot and few-shot learning through the in-context learning paradigm, making them adaptable to a wide range of downstream tasks with minimal task-specific supervision.

These LLMs include open-source and proprietary models. Although the training data and language coverage for proprietary models are often undisclosed, open models are typically trained on data from high-resource languages. Evaluations of both open and closed models on a range of tasks in African languages consistently show relatively poor performance, highlighting persistent challenges in cross-lingual generalization and data representation for low-resource languages.

We highlight several models’ names in Table 4. For models and datasets covering a single language, we include the ISO-3 code for that language. In cases where the data pertain to dialects of non-indigenous African languages, such as African Portuguese (APs) and African English (AEAs), we use appropriate dialectal labels instead.

Name	Task	Number
NLU Tasks		
Taxi-1500 (Ma et al., 2023)	text classification	420
SIB-200 (Adelani et al., 2024)	text classification	53
MasakhaNEWS (Adelani et al., 2023)	topic classification	16
KINNEWS and KIRNEWS (Niyongabo et al., 2020)	text classification	2
Amharic TC (Azime and Mohammed, 2021)	text classification	1 (amh)
Emakhuwa TC (Ali et al., 2024a)	text classification	1 (vmw)
AfriNLI (Adelani et al., 2025)	NLI	16
AfriSenti (Muhammad et al., 2023)	sentiment analysis	14
NaijaSenti (Muhammad et al., 2022)	sentiment analysis	4
NollySenti (Shode et al., 2023)	sentiment analysis	4
OMCD (Sibeko and van Zaanen, 2024)	off. lang. detection	1 (ary)
MT Tasks		
FLORES-200 (NLLB Team et al., 2024)	MT	53
NTREX-128 (Federmann et al., 2022)	MT	24
MAFAND-MT (Adelani et al., 2022a)	MT	16
TICO-19 (Anastasopoulos et al., 2020)	MT	12
WikiMatrix	MT	
MENYO-20k (Akinade et al., 2023)	MT	1 (yor)
AGE (Ademtew and Birbo, 2024)	MT	1 (amh)
Emakhuwa News MT (Ali et al., 2024a)	MT	1 (vmw)
Emakhuwa-FLORES (Ali et al., 2024b)	MT	1 (vmw)
Question Answering		
Belebele (Bandarkar et al., 2024)	MRC	53
AfriMMLU (Adelani et al., 2025)	QA	16
AfriQA (Ogundepo et al., 2023)	QA	10
NaijaRC (Aremu et al., 2024)	MRC	3
TyDi QA (Clark et al., 2020)	QA	1 (swh)
KenSwQuAD (Wanjawa et al., 2023)	QA	1 (swh)
Amh-QuAD (Taffa et al., 2024)	QA	1 (amh)
Y-NQ (Costa-jussà et al., 2025)	QA	1 (yor)
Reasoning		
AfriMGSM (Adelani et al., 2025)	Math	17
LINGOLY (Bean et al., 2024)	Linguistic	13
MGSM (Shi et al., 2023)	Math	1 (swh)
XCOPA (Bean et al., 2024)	Commonsense	1 (swh)
Information Extraction		
MasakhaNER 2.0 (Adelani et al., 2022b)	IE	20
MasakhaNER (Adelani et al., 2021a)	IE	10
MphayaNER (Mbuvha et al., 2023)	NER	1 (ven)
Information Retrieval		
AfriQA (Ogundepo et al., 2023)	IR	10
CIRAL (Adeyemi et al., 2024)	IR	4
MIRACL (Zhang et al., 2023)	IR	2
Mr. TyDi (Zhang et al., 2021)	IR	1 (swh)
Syntax: Parsing		
MasakhaPOS (Dione et al., 2023)	POS	20
NguniPOS (Sibeko and van Zaanen, 2024)	POS	4
YTB (Ishola and Zeman, 2020)	DP	1 (yor)
Tswana TB (Gaustad et al., 2024)	DP	1 (tsn)
Swahili TB (Steimel and Kübler, 2023)	DP	1 (swh)
CACO (Gezmu et al., 2021b)	POS	1 (amh)
PALMA (Hagemeijer et al., 2022a)	POS	0 (AFs)
NArabizi treebank (Seddah et al., 2020)	DP	0 (NAA)
{Spoken} Language/Dialect Identification		
OpenLID (Burchell et al., 2023)	LID	53
VoxLingua107 (Valk and Alumäe, 2020)	SLID	13
Text Generation		
AfriWOZ (Adewumi et al., 2023)	Dialogue Generation	6
TATA (Gehrmann et al., 2023)	Table-to-text	6
YAD (Olawole et al., 2024)	ADR	1 (yor)
SepediRadio Corpus (Ramalepe et al., 2023)	Text Generation	1 (nso)
Text Summarization		
CrossSum (Bhattacharjee et al., 2023)	Summarization	6
XL-Sum (Hasan et al., 2021)	Summarization	6
Speech Tasks		
BibleMMS (Lux et al., 2024)	TTS	59
Yodas (Li et al., 2023)	ASR	56
FLEURS (Conneau et al., 2022)	ASR	20
FLEURS-R (Ma et al., 2024)	TTS	20
SpeechTaxi (Keller and Glavas, 2024)	Speech Classification	8
SD-QA (Faisal et al., 2021)	Spoken QA	7 (AEAs)
BibleTTS (Meyer et al., 2022)	TTS	6
Zambezi Voice (Sikasote et al., 2023b)	ASR	4
African Voices (Ogayo et al., 2022)	TTS	6
Nicolingua (Doubouya et al., 2021)	ASR	3
Kallaama (Gauthier et al., 2024)	ASR	3
LRSC (Kimanuka et al., 2024)	ASR	1 (lin)
VoxMg (Ramanantsoa, 2023)	ASR	1 (plt)
EYASE (Abdel-Hamid, 2020)	Sp. emotion recog	1 (arz)
SADA (Alharbi et al., 2024)	ASR	1 (arz)
AfriSpeech-200 (Olatunji et al., 2023b)	ASR	0 (AEAs)
EdAcc (Sanabria et al., 2023)	ASR	0 (AEAs)
Afro-TTS (Ogun et al., 2024b)	TTS	0 (AEAs)
PidginASR (Ajisafe et al., 2020)	ASR	1 (pcm)
Unlabeled Text / Language Modeling		
GlottCC (Kargaran et al., 2024a)	LM	251
EMMA-500 (Ji et al., 2024)	LM	217
FineWeb (Penedo et al., 2024)	LM	90
MADLAD-400 (Kudugunta et al., 2023)	LM	87
Bloom (Leong et al., 2022)	LM	87
WURA (Oladipo et al., 2023)	LM	16
mC4 (Xue et al., 2021)	LM	13
CulturaX (Nguyen et al., 2024b)	LM	7
CulturaY (Thuat Nguyen and Nguyen, 2024)	LM	3
HPLT (de Gibert et al., 2024)	LM	3
TLMd (Gaim et al., 2021)	LM	1 (tir)
Unlabeled Speech / Speech Representation Learning		
MMS ulab v2 (Pratap et al., 2024; Chen et al., 2024c)	SRL	1450
Jesus Dramas (Chen et al., 2024c)	SRL	88
Nicolingua (Doubouya et al., 2021)	SRL	10
Zambezi Voice (Sikasote et al., 2023b)	SRL	4
CSRC (Kimanuka et al., 2024)	SRL	4

Table 3: Some publicly available datasets including African languages published between 2019 and 2024.

Name	Task	Number
Translation Models		
Toucan (Elmadany et al., 2024)	MT	517
NLLB-200 (NLLB Team et al., 2024)	MT	53
MADLAD-MT (Kudugunta et al., 2023)	MT	19
M2M-100 (Fan et al., 2020)	MT	17
SMaLL-100 (Mohammadshahi et al., 2022a)	MT	17
Encoder Language Models		
Serengeti (Adebara et al., 2023b)	Encoder LM	517
Glott500-m (Imani et al., 2023)	Encoder LM	517
AfroXLMR-76L (Adelani et al., 2024)	Encoder LM	76
AfroLM (Dossou et al., 2022)	Encoder LM	23
AfriBERTaV2 (Oladipo, 2024)	Encoder LM	23
AfroXLMR (Alabi et al., 2022)	Encoder LM	17
AfriBERTa (Ogueji et al., 2021)	Encoder LM	11
RemBERT (Chung et al., 2020)	Encoder LM	11
mDeBERTaV3 (He et al., 2021)	debrt LM	11
XLM-R (Conneau et al., 2020b)	Encoder LM	8
EthioLLM (Tonja et al., 2024a)	Encoder LM	5
Nguni-XLMR (Meyer et al., 2024)	Encoder LM	4
KinyaBERT (Nzeyimana and Niyongabo Rubungo, 2022)	Encoder LM	1 (kin)
PuoBERTa (Marivate et al., 2023)	Encoder LM	1 (tsn)
SwahBERT (Martin et al., 2022)	Encoder LM	1 (swh)
IgboBERT (Chukwunke et al., 2022)	Encoder LM	1 (ibo)
DziriBERT (Abdaoui et al., 2021)	Encoder LM	1 (arq)
EgyBERT (Qarah, 2024)	Encoder LM	1 (arz)
Decoder Language Models		
MADLAD (Kudugunta et al., 2023)	Decoder LM	87
Goldfish (Chang et al., 2024)	Decoder LM	63
BLOOM (Scao et al., 2022)	Decoder LM	22
XGLM (Lin et al., 2022)	Decoder LM	20
LLaMAX (Lu et al., 2024)	Decoder LM	20
LLaMAX-Alpaca (Lu et al., 2024)	Decoder LM/MT	20
AfriInstruct (Uemura et al., 2024)	Decoder LM	19
AfroLLaMa ¹³	Decoder LM	5
InkubaLM (Tonja et al., 2024b)	Decoder LM	5
mGPT (Shliazhko et al., 2024)	Decoder LM	3
Walia-LLM (Azime et al., 2024)	Decoder LM	1 (amh)
Amharic-LLaMA (Andersland, 2024)	Decoder LM	1 (amh)
Encoder-Decoder Language Models		
Cheetah (Adebara et al., 2024)	Enc-Dec LM	517
AfriMBART (Adelani et al., 2022a)	Enc-Dec LM	17
Afri (M,By)T5 (Adelani et al., 2022a)	Enc-Dec LM	17
AfriTeVa V2 (Oladipo et al., 2023)	Enc-Dec LM	16
Aya-101 (Üstün et al., 2024)	Enc-Dec LM	15
mT0 (Muennighoff et al., 2023)	Enc-Dec LM	14
mT5 (Xue et al., 2021)	Enc-Dec LM	13
ByT5 (Xue et al., 2022)	Enc-Dec LM	13
mLongT5 (Uthus et al., 2023)	Enc-Dec LM	13
AfriTeVa (Jude Ogundepo et al., 2022)	Enc-Dec LM	11
EthioMT5 (Tonja et al., 2024a)	Enc-Dec LM	5
OyoT5 (Olawole et al., 2024)	Enc-Dec LM	1 (yor)
Speech encoders		
XEUS (Chen et al., 2024c)	Speech Rep.	1439
MMS (Pratap et al., 2024)	Speech Rep.	1396
AfriHuBERT (Alabi et al., 2024b)	Speech Rep.	1226
SSA-HuBERT (Caubrière and Gauthier, 2024)	Speech Rep.	21
mHuBERT-147 (Zanon Boito et al., 2024)	Speech Rep.	16
XLRSR-128 (Babu et al., 2022)	Speech Rep.	12
Toolkits		
OccGen (Costa-jussà et al., 2022)	Bias, Data selection	1 (swh)
Lesan (Hadgu et al., 2021)	MT	1 (amh)
AfroLID (Adebara et al., 2022b)	LID	517
OpenLID (Burchell et al., 2023)	LID	53
GlottScript (Kargaran et al., 2024b)	LID	2250
Platforms		
Mozilla Common Voice (Ardila et al., 2020)	-	-
Lanfrica (Emezue and Dossou, 2020a)	-	-

Table 4: Some publicly available models, toolkits and platforms including African languages published between 2019 and 2024.