

# AfroBench: How Good are Large Language Models on African Languages?

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## Abstract

Large-scale multilingual evaluations, such as MEGA, often include only a handful of African languages due to the scarcity of high-quality evaluation data and the limited discoverability of existing African datasets. This lack of representation hinders comprehensive LLM evaluation across a diverse range of languages and tasks. To address these challenges, we introduce AFROBENCH—a multi-task benchmark for evaluating the performance of LLMs across 64 African languages, 15 tasks and 22 datasets. AFROBENCH consists of nine natural language understanding datasets, six text generation datasets, six knowledge and question answering tasks, and one mathematical reasoning task. We present results comparing the performance of prompting LLMs to fine-tuned baselines based on BERT and T5-style models. Our results suggest large gaps in performance between high-resource languages, such as English, and African languages across most tasks; but performance also varies based on the availability of monolingual data resources. Our findings confirm that performance on African languages continues to remain a hurdle for current LLMs, underscoring the need for additional efforts to close this gap.<sup>1</sup>

## 1 Introduction

Large language models (LLMs) have risen to the forefront of natural language processing (NLP) and have also become increasingly commercially viable. These models have empirically demonstrated strong performance across a variety of NLP tasks and languages (Brown et al., 2020; Lin et al., 2021; Chowdhery et al., 2022; Chung et al., 2022). However, their performance on low-resource languages (LRLs), such as African languages, is largely understudied. This is problematic because there is a significant disparity in the coverage of languages by NLP technologies. Joshi et al. (2020) note

<sup>1</sup><https://mcgill-nlp.github.io/AfroBench/>

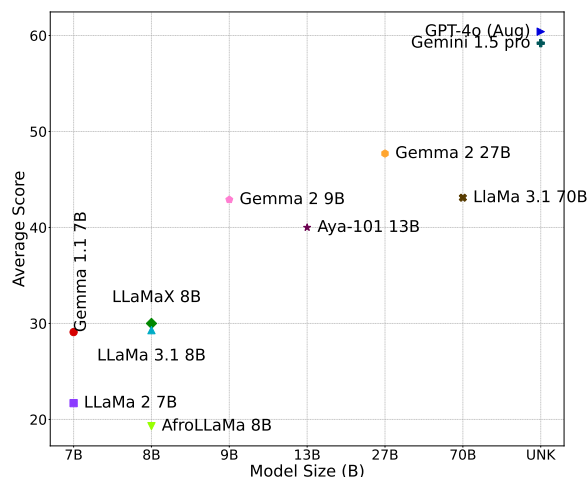


Figure 1: AFROBENCH average score on various LLMs

that over 90% of the world’s 7000+ languages are under-studied by the NLP community. Ideally, approaches to enhance language understanding should be applicable to all languages.

While there have been evaluations of LLM performance in several languages (Ahuja et al., 2023a; Lai et al., 2023; Robinson et al., 2023), the evaluations have primarily focused on *closed models* like GPT-3.5 (Ouyang et al., 2022) and GPT-4 (OpenAI, 2023). Megaverse (Ahuja et al., 2023b) extended the evaluation to more models such as PaLM 2 (Anil et al., 2023) and LLaMa 2 (Touvron et al., 2023), Mistral (Jiang et al., 2023), Gemma (Mesnard et al., 2024) and Gemini Pro (Team et al., 2023). However, previous evaluation face two main issues: (1) they cover only a few tasks for African languages, for example, Megaverse only evaluated on part-of-speech, named entity recognition, and cross-lingual question answering for African languages, due to *poor discoverability* of African languages benchmarks, *limited available evaluation data*, and *bias in the selection* of languages covered in the evaluation.<sup>2</sup> (2) Evaluation of LLMs needs

<sup>2</sup>Belebele (Bandarkar et al., 2024) covers over 29 African languages, but Megaverse did not include any in their evaluation.

Benchmark	# Tasks	# Datasets	# African Lang.	# LLMs	Closed LLMs evaluated	Dominant task(s)
ChatGPT-MT (Robinson et al., 2023)	1	1	57	1	GPT-3.5	MT
Mega (Ahuja et al., 2023a)	10	16	11	4	GPT-3, GPT-3.5-Turbo, GPT-4	POS, NER
Megaverse (Ahuja et al., 2024)	16	22	16	8	PaLM, GPT-3.5, GPT-4, Gemini Pro	POS, NER, XQA
SIB-200 (Adelani et al., 2024a)	1	1	57	2	GPT-3.5, GPT-4	Topic classification
Belebele (Bandarkar et al., 2024)	1	1	28	6	GPT-3.5-Turbo	QA
Uhura (Bayes et al., 2024)	1	2	6	6	Claude-3.5-Sonnet, GPT-4, 4o, o1-preview	QA
IrokoBench (Adelani et al., 2024b)	3	3	16	16	GPT-3.5,4,4o, Gemini-1.5-Pro, Claude OPUS	NLI, MMLU, Math.
AFROBENCH(Ours)	15	22	60	12	Gemini-1.5-Pro, GPT-4o	several

Table 1: **Overview of Related works that evaluated on African languages.** We included the number of tasks, datasets, African languages, LLMs evaluated, and the dominant tasks covering at least three African languages.

to be continuous, since many new LLMs have been released with improved multilingual abilities, but comprehensive evaluations for African languages remain limited.

In this paper, we address the challenges of previous large-scale LLM evaluation by introducing a new carefully curated benchmark known as **AFROBENCH which comprises 15 tasks, 22 evaluation datasets, and 64 indigenous African languages**. AFROBENCH consists of nine natural language understanding tasks, six text generation tasks, six question answering (QA) tasks, and one mathematical reasoning task. Finally, we created a **new evaluation dataset**, AFRIADR, a dataset for restoring diacritic marks and tonal accents in African language texts. Leveraging AFROBENCH, we conduct an extensive analysis of LLMs performance on African languages from different language families and geographical locations.

For our evaluation, we compute the average performance score over the 15 tasks covered in AFROBENCH. Additionally, we introduce AFROBENCH-LITE that only covers a subset of seven tasks and 14 diverse languages from AFROBENCH, which reduces the evaluation cost for a newly introduced LLM on our leaderboard. Figure 1 shows our evaluation on AFROBENCH. We find that proprietary models such as GPT-4o and Gemini-1.5 pro achieve a +13 score improvement over Gemma 2 27B, our best-performing open model. We also compared the performance on English to 14 African languages, finding that GPT-4o and Gemma 2 27B achieve better performance than African languages by over +25 and +40 points, respectively. This shows that the gap in the multilingual abilities of open models is wider than that of proprietary models. Finally, we compare the performance of LLMs to fine-tuned models based on AfroXLMR (Alabi et al., 2022), AfriTeVa V2 T5 model (Oladipo et al., 2023) and NLLB (NLLB Team et al., 2022) when training data is present. Results show that prompting LLMs often yields lower average performance than the fine-tuned baselines.

Our findings show that greater effort is needed to close the performance gap between LLMs on high-resource and African languages

## 2 Related Work

**Large Language Model Evaluation:** Accurate and reproducible evaluation of LLMs is important as the number of released models continues to grow. As these models are integrated into various applications, developing robust evaluation frameworks becomes critical for understanding their true capabilities and limitations. As a result, the community has worked on developing evaluation frameworks (Gao et al., 2024; Fourrier et al., 2023; Liang et al., 2023), leaderboards (Chiang et al., 2024; Srivastava et al., 2023; Fourrier et al., 2024) and benchmarks (Adelani et al., 2024b; Zhou et al., 2023; Hendrycks et al., 2021). While each of these evaluation tools focuses on assessing specific aspects of language model capabilities, from basic linguistic understanding to complex reasoning tasks, the development of truly comprehensive benchmarks remains a significant challenge (Ruder, 2021; Biderman et al., 2024). These challenges stem from the complex nature of language understanding and the stochastic nature of language models.

**Multilingual LLM Benchmarks:** Benchmarks serve as a standard for measuring how systems have improved over time on specific tasks and metrics. In the context of LLMs, multilingual benchmarks are crucial for assessing both the quality and practical utility of these models across diverse languages and tasks. Our primary focus lies in understanding LLM performance specifically for African languages, with several notable benchmarks having emerged in recent years to address this need. ChatGPT-MT (Robinson et al., 2023) evaluated the translation capability of GPT-4 and they find that it demonstrates strong performance on high-resource languages, but performance on low-resource languages is subpar. Belebele (Bandarkar et al., 2024) is a QA task covering 122 languages, including 28

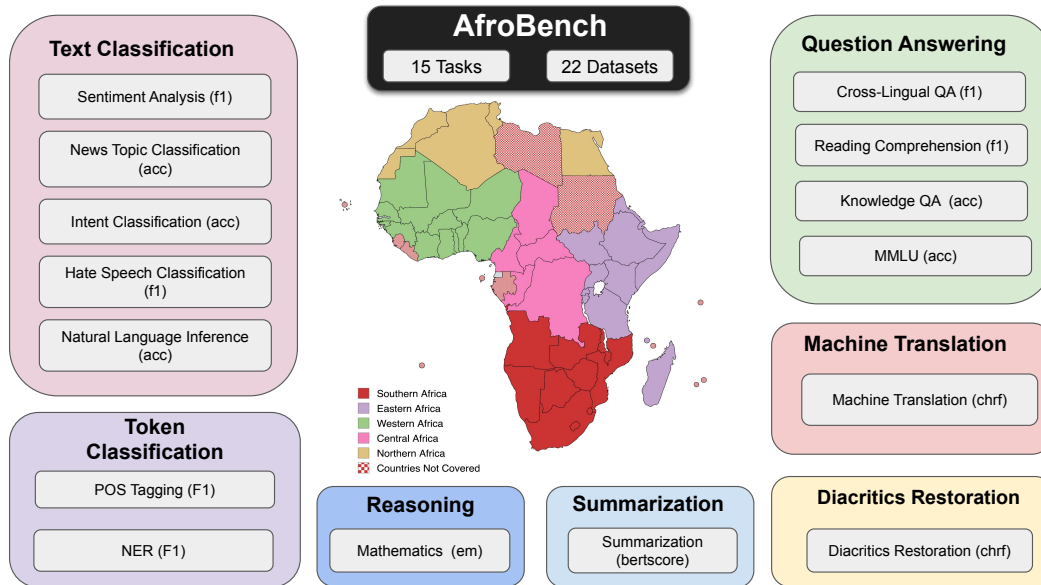


Figure 2: **AFROBENCH: A comprehensive benchmark for evaluating performance of LLMs on African Language tasks.** The benchmark features 15 distinct tasks across 22 datasets and 64 indigenous African languages. The benchmark covers diverse tasks with geographical coverage spanning different regions in Africa.

African languages, for evaluating reading comprehension abilities of LLMs. Mega (Ahuja et al., 2023a) and Megaverse (Ahuja et al., 2024) are multi-task, multilingual and multi-modal benchmarks in 83 languages including 16 African languages. Table 1 summarizes the related works.

While these existing benchmarks have provided valuable insights, they collectively highlight a pressing need for more comprehensive evaluation that encompasses a broader range of African languages and diverse tasks. Our research, through the development of AFROBENCH, addresses this gap by building upon and complementing existing work. We introduce a robust evaluation framework that assesses LLM performance across 64 African languages, evaluating capabilities across 15 distinct tasks. This broader scope enables a more nuanced and thorough understanding of LLM capabilities in African language contexts.

### 3 AfroBench

AFROBENCH is a comprehensive LLM evaluation benchmark designed to assess both proprietary and open LLMs across diverse Natural Language Processing (NLP) tasks in African languages. As shown in Figure 2, the benchmark encompasses 15 distinct tasks, spanning Natural Language Generation (NLG) and Natural Language Understanding (NLU), incorporating 22 curated datasets in 64 African languages. These evaluation tasks extend beyond traditional NLP benchmarks, such as text

classification and named entity recognition, to include more challenging tasks such as mathematical reasoning and knowledge QA.

Each task within AFROBENCH has been carefully selected to assess different aspects of language model capabilities, from basic linguistic capabilities to more complex reasoning abilities. AFROBENCH also provides valuable insights into model behavior across different African language families and their unique linguistic features. All tasks within AFROBENCH are evaluated using both zero-shot and few-shot prompting to guide model responses. To ensure consistent and reliable evaluation, we implement task-specific response constraints to facilitate systematic extraction and analysis of model outputs. For completion, we compare against state-of-the-art (SoTA) encoder-only and encoder-decoder architectures that have previously demonstrated superior performance on individual tasks within the benchmark. This enables us to directly compare the performance of specialized models to general-purpose LLMs. Table 2 summarizes the tasks, the datasets used, number of languages covered, and total sample size.

#### 3.1 Languages

We cover 64 African languages from seven language families (Afro-Asiatic, Atlantic-Congo, Austronesian, Indo-European, Mande, Nilotic, and English-Creole). 40 languages are from the Atlantic-Congo family, 12 from the Afro-Asiatic

Task	Dataset	Total Size	No. of Lang.	Per. Lang. size
POS	MasakhaPOS	12,190	20	500–700
NER	MasakhaNER-X	18,192	20	900–1000*
TC	SIB-200	11,220	55	204
SA	MasakhaNEWS	6,242	16	200–948
	AfriSenti	37,670	15	950–4500‡
	NollySenti	2,500	5	500
Intent	Injongo-Intent	10,880	17	640
Hate	AfriHate	14,250	15	323–1600
NLI	AfriXNLI	9,600	16	600
XQA	AfriQA	3,107	9	250–500
RC	Belebele	27,900	31	900
QA	NaijaRC	357	3	80–190
	Uhura-Arc-Easy	3,257	7	300–500
MMLU	AfriMMLU	8,500	17	500
	MMMLU	42,126	3	14042
Math	AfriMGSM	4,500	18	250
MT	Flores-200	58,696	58	1012
	MAFAND	29,155	21	1000–2000
	NTREX	48,000	24	2000
	Salt	3,500	7	500
Summ	XLSum	25,769	12	500–1300 <sup>¶</sup>
ADR	AfriADR	7,567	5	1400–1600

Table 2: **AfroBench data statistics:** We detail the dataset evaluated per task, test set size and number of languages for each dataset as well as the range of sample per language, \*excl. amh: 500 & luo: 185 (in MasakhaNER-X), ‡excl. tso: 254 (in AfriSenti), and ¶excl. arb: 4689 & eng: 11,535. (in XLSum). The tasks covered in the **Lite** version is highlighted in Grey .

family, seven from the Nilotic family, 2 Indo-European, 2 Creole languages, and 1 Austronesian language. Figure 2 shows the geographical distribution of the languages covered in AFROBENCH and a full list of languages is provided in Appendix F.

## 3.2 Evaluation tasks

Our evaluation spans multiple datasets across 15 NLP tasks. While some of these multilingual datasets cover languages from multiple continents, we focus specifically on the African language subsets, along with select high-resource languages (English, French, Portuguese, and Arabic), due to their widespread use in various African regions. Table 2 details the sample size and the number of languages evaluated per task per dataset. We present a breakdown of the tasks, sub-tasks, and specific datasets contained in AFROBENCH.

### 3.2.1 Text Classification

**Sentiment Classification (SA):** We evaluate NOLLYSENTI (Shode et al., 2023) and AFRISENTI (Muhammad et al., 2023). AFRISENTI is a tweet sentiment analysis dataset in 14 African languages, while NOLLYSENTI focuses on sentiment in movie reviews in 4 African languages.

**Topic Classification (TC):** We evaluate SIB-200 and MASAKHANEWS (Adelani et al., 2023) which cover 53 and 14 African languages, respectively. The topic categories could be general topic such as *business*, *entertainment*, and *health*.

**Intent Classification:** INJONGO-INTENT (Yu et al., 2025) is an intent classification dataset in 16 African languages. The goal is to classify an utterance into one of 40 intent types from different domains such as *Banking* (e.g. “freeze account”), *Home* (e.g. “play music”), *Kitchen and Dining* (e.g. “cook time”), and *Travel* (e.g. “plug type”).

**Hate Speech detection:** AFRIHATE (Muhammad et al., 2025) is a multilingual hate speech and abusive language dataset covering 15 African languages for tweets. Each tweet can be categorized as *abusive*, *hate* or *neutral* label.

**Natural Language Inference (NLI):** AFRIXNLI(Adelani et al., 2024b) is a dataset collection in 16 African languages where each sample is a pair of sentences (a premise and a hypothesis) and the task is to classify each pair as an *entailment*, *contradiction*, or *neutral* pair.

### 3.2.2 Token Classification

**Named Entity Recognition (NER):** We evaluate entity recognition for 20 African languages on the MASAKHANER-X (Ruder et al., 2023)—an extension of MASAKHANER dataset (Adelani et al., 2021, 2022b) which converts NER tags from CoNLL format into a text generation task of predicting entities with a delimiter “\$” between them.

**Part-of-Speech Tagging (POS):** MASAKHA-POS(Dione et al., 2023) is a part-of-speech tagging dataset in 20 African languages created from news articles. Each token is categorized into one of the 17 POS tags.

### 3.2.3 Reasoning:

**Mathematical reasoning (Math):** We evaluate on AFRIMGSM (Adelani et al., 2024b), an extension of the MGSM dataset to 17 African languages. Each question is at grade school level with a numerical answer.

### 3.2.4 Question Answering

**Cross-Lingual Question Answering (XQA):** AFRIQA (Ogundepo et al., 2023) is a cross-lingual QA task with questions in 10 African languages and context passages in English or French. The



goal is to extract the correct answer span from the text, similar to a cross-lingual reading comprehension.

**Reading Comprehension (RC):** We evaluate on NAIJARC (Aremu et al., 2024), a multiple-choice reading comprehension dataset in 3 African languages and BELEBELE (Bandarkar et al., 2024), a multiple-choice reading comprehension dataset in 122 languages, including 29 African languages.

**Knowledge QA:** We focus on two human-translated MMLU datasets: OPENAI-MMLU and AFRIMMLU (Adelani et al., 2024b) covering 3 and 16 African languages respectively.<sup>3</sup> Both tasks span multiple subjects and follow a four-option multiple-choice format. However, AFRIMMLU covers only five subjects. We also extend our evaluation to the human-translated version of the *scientific Arc-Easy* benchmark in 6 African languages UHURA (Bayes et al., 2024).

### 3.2.5 Text Generation

**Machine translation (MT):** Our MT benchmark includes the following datasets: FLORES (Goyal et al., 2022), MAFAND (Adelani et al., 2022a), NTREX-128 (Federmann et al., 2022) and SALT (Akeru et al., 2022) covering 57, 21, 23 and 7 translation directions into African languages. All translations are from English, except for MAFAND, which includes a few languages with French as the source.

**Summarization (Summ):** Given a news article, our goal is to generate its summary based on the widely-used XL-SUM dataset (Hasan et al., 2021) covering 10 African languages.

**Automatic Diacritics Restoration (ADR):** This is a **new benchmark** we introduce called **AFRIADR**. Given a sentence in a language, say “*Sugbon sibesibe, Mama o gbagbo*” (in Yorùbá), the model’s goal is to add the missing tonal marks and accents, say “*Ṣùgbón síbèsíbẹ̀, Màmá ò gbàgbọ̀*”. We cover 5 African languages for this task: *Ghomá alá’, Fon, Igbo, Wolof, and Yorùbá*. To create AFRIADR, we selected the five languages with extensive use of diacritics from MAFAND MT dataset, then, we strip all accents and diacritics on each sentence, and use it as the “source” text, and the “target” as the fully diacritized texts. Table 3 provides the data size and an example sentence for each language in AFRIADR.

<sup>3</sup><https://huggingface.co/datasets/openai/MMMLU>

Lang.	Size	Example sentence
Ghomá alá’	1430	<b>Input:</b> A jwó guj tsá awé a ló náj kwító <b>Target:</b> À jwó guj tsó awé a ló náj kwító
Fon	1579	<b>Input:</b> Din ɔ, nu lée bi jewexo. <b>Target:</b> Din ɔ, nú lée bí jẹ wexo.
Igbo	1500	<b>Input:</b> Akuko ndi ga-amasi gi: <b>Target:</b> Akụkọ ndị ga-amasị gi:
Wolof	1500	<b>Input:</b> Naari taggatkat lanu yu xaran lu kawé. <b>Target:</b> Naari taggatkat lañu yu xarañ lu kawé.
Yorùbá	1558	<b>Input:</b> Isokan awon Oniroyin naa fe oro naa loju: <b>Target:</b> Íṣòkan àwọ̀n Onírọ̀yìn nàà fẹ̀ ọ̀rọ̀ nàà lójú:

Table 3: **AfriADR dataset:** Language, test size, and Example sentence

### 3.3 AfroBench-Lite: A cost-effective bench

Following the idea of Global-MMLU-Lite (Singh et al., 2024), which aims to create a cost-effective benchmark with fewer languages and samples. We introduce AFROBENCH-LITE, a subset of AFROBENCH covering 14 languages and seven datasets (and tasks): SIB-200 (TC), INJONGO (Intent), AFRIXNLI (NLI), BELEBELE (RC), AFRIMMLU (MMLU), AFRIMGSM (Math), and FLORES (MT). The selected languages are highly typologically diverse, and have varying resource levels (Kudugunta et al., 2023). These languages include: *English, Kiswahili, Kinyarwanda, Hausa, Amharic, isiXhosa, chiShona, isiZulu, Igbo, Yorùbá, Sesotho, Lingala, Oromo, Luganda, and Wolof*.

## 4 Experimental setup

### 4.1 Evaluation Framework

We model all tasks as text-generation problems, where we combine inputs with prompts to guide language models in generating outputs under specific constraints. To ensure robust evaluation, we employ multiple prompts for each task with with few-shot and zero-shot examples, which help maintain consistency and minimize potential bias across different models.

Our evaluation framework is fully integrated with Eleuther LM Evaluation Harness (Gao et al., 2024) with custom evaluation scripts to run open-source models.<sup>4</sup> However, for the proprietary models, we developed a custom framework for prompting various LLMs via API including open models available on TogetherAI API.<sup>5</sup> These tools are open source, easily accessible, and reproducible. Details

<sup>4</sup>[https://github.com/EleutherAI/lm-evaluation-harness/tree/main/lm\\_eval/tasks/afrobench](https://github.com/EleutherAI/lm-evaluation-harness/tree/main/lm_eval/tasks/afrobench)

<sup>5</sup>[https://github.com/McGill-NLP/AfroBench/tree/main/prompt\\_with\\_API](https://github.com/McGill-NLP/AfroBench/tree/main/prompt_with_API)

of the custom framework and its integration with the Eleuther LM Evaluation Harness are provided in Appendix C.

## 4.2 Fine-tuned baselines

For the tasks with available training data, we use available task-specific trained models, such as NLLB-200 3.3B for MT, and fine-tuned multilingual encoders or encoder-decoder T5 models on applicable datasets. We fine-tune AfroX-LMR (Alabi et al., 2022)—one of the SoTA BERT-style encoders for African languages for each NLU task. For summarization and ADR, we fine-tune AfriTeVa V2 Large (Oladipo et al., 2023) on the available training data of each task. While AfriTeVa V2 outperformed mT5 (Xue et al., 2021) overall, its tokenization failed for Fon language, so we fine-tune mT5-large, which has a more diverse tokenizer, for the language.

## 4.3 LLMs Evaluated

We evaluate two broad categories of Large Language Models (LLMs): **Open Models** and **Closed Models**. We evaluate 10 open models: LLaMa 2 7B (Touvron et al., 2023), Gemma 1.1 7B (Mesnard et al., 2024), LLAMA 3 series (3 8B, 3.1 8B & 3.1 70B) (Dubey et al., 2024), LLaMaX 8B (Lu et al., 2024) (an adapted LLaMa 3 8B to 100 languages), AfroLLama 8B (an adapted LLaMa 3 8B to Swahili, Xhosa, Zulu, Yoruba, Hausa and English languages),<sup>6</sup> GEMMA 2 (9B & 27B) (Riviere et al., 2024), and Aya-101 (an instruction-tuned mT5 encoder-decoder model on massively multilingual prompted dataset). Finally, we evaluate on two popular proprietary models: GPT-4o and Gemini-1.5 pro (Reid et al., 2024). A full description of the LLMs evaluated is provided in Appendix B.

**Prompts used for evaluation** We make use of *five* different prompts in the evaluation of each task except the text generation tasks, and we report the best prompt in the paper. For text generation tasks, we reduce the number of prompts to *three* since the generation is often time-consuming and computationally expensive, especially for summarization tasks. Moreover, we observe that performance is less sensitive to prompt variations, unlike natural language understanding (NLU) tasks. The prompt templates are provided in Appendix H.

<sup>6</sup>[https://huggingface.co/Jacaranda/AfroLLama\\_V1](https://huggingface.co/Jacaranda/AfroLLama_V1)

**Few-shot evaluation** We restrict the few-shot evaluation to top-performing open and proprietary models. We fixed the number of examples to *five*, except for AfriMGSM whose number of examples is *eight*.<sup>7</sup>

## 5 Results

### 5.1 AfroBench Evaluation

Table 4 presents the overall results across all 15 tasks and 22 datasets. We report only the best prompt results. Average results across all five prompts, along with confidence intervals, are provided in Appendix D.

Our **first** observation is that closed models such as GPT-4o and Gemini-1.5 pro outperform the best open model, Gemma 2 27B by +12 or more points on average. This shows that the gap in performance is wider for low-resource African languages compared to high-resource languages like English, especially with open models. **Secondly**, we find that the performance gap varies across tasks. Knowledge-intensive and reasoning tasks such as ARC-EASY, MMLU, MATH have the largest gaps of +29.4, +19.9, +22.6 points, respectively, when comparing GPT-4o to Gemma 2 27B. Overall, performance improves with newer LLM versions (e.g. Gemma 1.1 7B vs. Gemma 2 9B and LLaMa 2 7B vs. LLaMa 3.1 8B) and larger model sizes (Gemma 2 9B and Gemma 2 27B). This suggests that newer iterations of models are getting better on low-resource languages, though improvements on knowledge-intensive tasks remain limited. **Finally**, while LLMs have made significant progress, they still lag behind *fine-tuned baselines (FT. AVG)* when training data is available for a task. The performance gap is around +11.5 on average, highlighting the continued value of curating annotated datasets for low-resource languages, as LLMs still underperform. We provide task and per-language results in Appendix A and I.

### 5.2 AfroBench-Lite Evaluation

In the AFROBENCH-LITE evaluation, we restrict evaluation to seven LLMs, and seven tasks, comparing their performance to English.

**Large gap in performance when compared to English** One striking observation is that open models such as LLaMa 3.1 70B and Gemma 2 27B have competitive performance to closed models

<sup>7</sup>8-shot samples is the standard setting for MGSM datasets

Tasks Metrics	natural language understanding							QA		knowledge		reasoning	text generation				
	POS acc	NER F1	SA F1	TC acc	Intent acc	Hate F1	NLI acc	XQA F1	RC F1	Arc-E acc	MMLU acc	Math EM	MT ChrF	Summ BertScore	ADR ChrF	ALL AVG	FT. AVG
<i>Fine-tuned baselines</i>																	
AfroXLMR	<b>89.4</b>	<b>84.6</b>	<b>72.1</b>	74.4	<b>93.7</b>	<b>77.2</b>	61.4						<i>en/fr-xx xx-en/fr</i>				
mT5/AfriTeVa V2 1B								52.5	N/A	N/A	N/A				<b>72.3</b>	<b>79.4</b>	
NLLB 3.3B													<b>40.4</b>	<b>47.8</b>		<b>70.4</b>	
<i>Prompt-based baselines</i>																	
<i>open models</i>																	
Gemma 1.1 7B	38.6	27.9	43.3	45.3	9.4	24.3	34.0	17.4	38.1	32.2	28.6	4.6	11.7	9.7	49.1	50.8	29.1 29.7
LLaMa 2 7B	27.9	15.6	42.3	19.4	1.5	21.9	33.8	13.7	24.3	23.3	25.6	2.0	10.5	20.3	46.9	30.4	22.5 22.2
LLaMa 3 8B	48.5	22.7	43.6	37.0	2.1	27.8	35.4	12.6	27.6	32.0	27.4	5.1	15.9	27.7	66.2	26.1	28.6 28.6
LLaMaX 8B	41.6	0.0	51.9	49.8	5.6	28.6	40.8	2.2	29.7	39.9	28.3	4.0	22.7	35.0	50.7	49.4	30.0 29.0
LLaMa 3.1 8B	47.1	11.5	50.5	46.7	6.0	23.6	36.6	21.8	39.5	32.8	31.4	6.8	16.4	28.5	43.7	25.9	29.3 28.1
AfroLLaMa 8B	0.0	3.5	43.4	19.8	0.8	18.4	35.9	21.8	24.1	37.2	25.8	3.7	8.4	9.5	50.8	5.2	19.3 17.6
Gemma 2 9B	51.9	40.3	60.0	56.0	29.2	29.9	40.3	45.9	51.6	53.4	37.1	18.7	24.8	29.1	66.1	51.6	42.9 42.9
Aya-101 13B	0.0	0.0	<b>63.4</b>	70.3	42.4	31.0	<b>51.5</b>	<b>62.5</b>	<b>60.7</b>	<b>59.6</b>	30.9	4.4	23.4	37.9	52.4	50.4	40.1 37.7
Gemma 2 27B	<b>55.1</b>	<b>50.8</b>	<b>63.4</b>	62.4	33.0	45.5	42.8	50.5	53.9	56.3	40.5	<b>27.0</b>	27.9	32.9	66.4	55.1	47.7 48.3
LlaMa 3.1 70B	54.1	14.4	52.2	57.7	34.0	49.0	38.0	44	49.7	54.9	39.9	23.2	25.1	37.9	67.6	51.7	43.3 42.6
<i>proprietary models</i>																	
Gemini 1.5 pro	60.8	41.8	68.3	<b>76.7</b>	74.3	62.1	62.0	40.5	52.7	84.8	57.6	<b>52.3</b>	37.6	41.7	66.7	<b>55.6</b>	58.5 58.9
GPT-4o (Aug)	<b>62.8</b>	40.7	68.0	74.8	74.0	63.5	<b>64.3</b>	43.4	<b>69.2</b>	<b>85.7</b>	<b>60.4</b>	49.8	35.1	40.7	66.5	54.9	<b>59.6</b> 58.1

Table 4: **AfroBench Evaluation Results on Fine-Tuned Models and LLMs.** We cover 15 tasks, 22 datasets, and 64 African languages in the evaluation. The best closed and open LLMs are highlighted in Cyan. We **bolden** the best result per task in each column. We provide average on **ALL** tasks and on those with fine-tuned baselines (**FT**)

Model	Lang	Intent	TC	NLI	RC	MMLU	Math	MT <i>en/fr-xx</i>	AVG
Gemma 1.1 7B	<i>eng</i>	72.1	86.3	59.2	87.9	44.6	20.8	26.1	56.7
	<i>africa</i>	10.2	42.0	34.6	34.1	27.3	5.1	10.9	23.5
Gemma 2 9B	<i>eng</i>	36.3	82.5	70.7	<b>93.7</b>	69.8	68.8	67.9	70.0
	<i>africa</i>	27.8	64.0	40.9	49.3	36.1	21.7	37.2	39.6
Aya-101 13B	<i>eng</i>	78.0	82.8	67.0	86.1	42.8	11.6	64.2	61.8
	<i>africa</i>	40.2	76.0	52.4	59.7	30.3	4.9	31.8	42.2
Gemma 2 27B	<i>eng</i>	84.0	<b>89.3</b>	67.8	93.4	75.6	85.6	68.5	80.6
	<i>africa</i>	31.4	66.6	43.7	52.1	40.8	30.6	39.1	43.5
LLaMa 3.1 70B	<i>eng</i>	84.5	88.3	59.5	93.2	76.4	86.8	<b>71.6</b>	80.0
	<i>africa</i>	36.9	61.9	38.4	45.3	40.6	26.5	29.6	39.9
Gemini 1.5 pro	<i>eng</i>	<b>86.8</b>	88.7	88.5	69.6	<b>88.8</b>	86.8	69.1	82.6
	<i>africa</i>	75.6	<b>81.3</b>	63.6	54.4	<b>62.6</b>	<b>57.7</b>	44.2	62.8
GPT-4o (Aug)	<i>eng</i>	86.2	89.2	<b>89.2</b>	84.3	88.0	<b>88.8</b>	70.2	<b>85.1</b>
	<i>africa</i>	78.4	83.0	66.3	70.3	63.1	57.3	43.6	<b>66.0</b>

Table 5: **AfroBench-Lite Evaluation:** LLM baselines on 7 datasets spanning 14 African languages. Tasks were selected for broad NLP coverage, prioritizing language consistency. The best score per task is in **bold**.

on English with  $-5$  to  $-2$  point performance gap. However, when compared to African languages, GPT-4o and Gemini-1.5 pro achieve an average score better than Gemma 2 27B by over 20 points on AFROBENCH-LITE. These results suggest that current LLMs, especially open models, are biased toward *English* and a few high-resource languages. Adapting LLMs for a region of African languages could help bridge the gap. For instance, we see that continually pre-training LLaMa 3 8B, that resulted in LLaMaX 8B yields a modest performance gain of  $+1.4$  points or more compared to vanilla LLaMa 3 8B in Table 4. However, to further improve performance, better adaptation techniques are needed.

**Performance varies across languages** Figure 3 shows the results for per-language performance scores of 14 languages in AFROBENCH-LITE. Our results show a correlation between performance and available monolingual text on the web (Kudugunta et al., 2023). We find that Swahili (swa) with over 2.4GB of monolingual text has the highest performance among the African languages, while Wolof with the smallest monolingual data (5MB) has the lowest performance. While these data size estimates are approximate, it shows that there is a need to invest more in developing language texts for many African languages for them to benefit in the LLM age. For most languages, GPT-4o gives the best overall results except for Amharic (amh) where Gemini-1.5 pro was better. For the open models, Gemma 2 27B outperforms other open models on 8 of the 14 languages, even better than LLaMa 3.1 70B, which is more than twice its number of parameters. Although Aya-101 covers 100 languages in its pre-training and often achieves better performance on NLU tasks in AFROBENCH-LITE, it often struggles with math reasoning and MMLU, resulting in lower overall performance.

### 5.3 Few-shot Results

Table 6 shows the results of zero-shot and few-shot evaluation for three LLMs: Gemma 2 27B, Gemini-1.5 pro and GPT-4o. The benefit of few-shot varies for different LLMs and tasks. For GPT-4o, we find that across all tasks, there is an average improvement of  $+1.8$  while the other LLMs

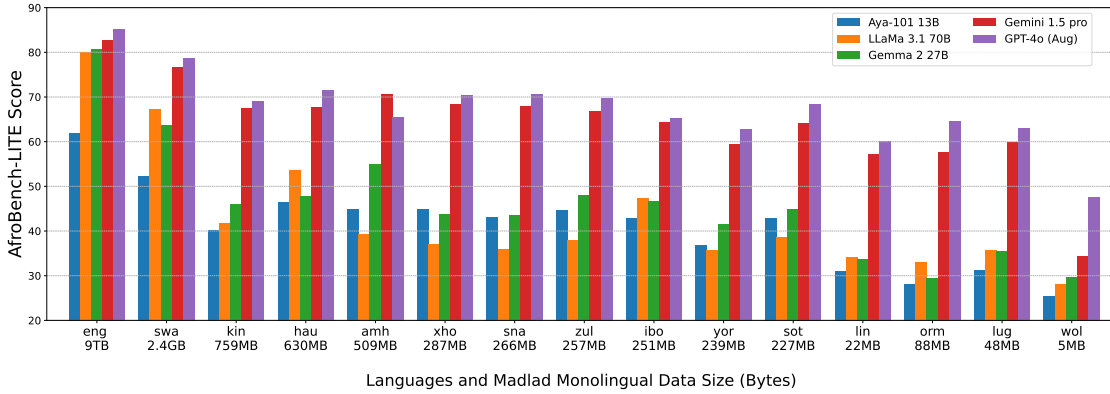


Figure 3: AfroBench-Lite performance of various models across African languages, plotted against the availability of monolingual data (MADLAD byte size).

Tasks	# shots	POS	NER	SA	TC	Intent	Hate	NLI	XQA	RC	MMLU	Math	MT		SUMM	ADR	AVG
													en/fr-xx	xx-en/fr			
Gemma 2 27B	0-shot	<u>55.1</u>	<b>50.8</b>	58.6	57.3	35.2	45.5	42.8	50.5	53.6	39.9	27.0	<u>32.4</u>	32.4	66.4	<u>55.1</u>	<u>46.8</u>
	5-shot	43.9	14.5	<u>59.7</u>	<u>62.5</u>	<u>56.7</u>	<u>57.3</u>	<u>56.0</u>	<b>52.4</b>	<u>58.3</u>	<u>44.8</u>	27.5	<u>22.7</u>	<u>34.9</u>	55.5	31.2	45.2
Gemini 1.5 pro	0-shot	<u>60.8</u>	<u>41.8</u>	62.6	74.5	<b>74.3</b>	62.1	62.0	<u>40.5</u>	<u>53.0</u>	<b>60.2</b>	52.3	35.4	41.7	66.7	55.6	<u>56.2</u>
	5-shot	33.2	37.4	<b>64.5</b>	<b>77.3</b>	73.4	<u>64.1</u>	<u>35.9</u>	28.7	24.4	46.0	<u>49.0</u>	<u>37.4</u>	<u>43.1</u>	<b>70.4</b>	<b>63.4</b>	49.9
GPT-4o (Aug)	0-shot	<b>62.8</b>	40.7	<u>62.6</u>	72.5	74.0	63.5	<b>64.3</b>	43.4	69.1	<u>60.0</u>	49.8	31.5	41.0	66.5	54.9	57.1
	5-shot	62.4	<u>45.0</u>	62.3	<u>72.9</u>	71.6	<b>69.3</b>	64.2	40.0	<b>71.9</b>	59.7	<b>54.7</b>	<b>33.9</b>	<b>43.3</b>	<u>67.9</u>	<u>62.7</u>	<b>58.8</b>

Table 6: **Few-shot Evaluation.** The better score between each model’s 0-shot and few-shot is in underlined.

dropped in performance on average. The tasks that benefit the most from the few-shot examples are math reasoning, hate speech detection and ADR with respective improvements of +4.9, +5.8, and +7.8 points. The result shows that few-shot examples are important for teaching LLM a new task it is unfamiliar with such as ADR since the rules of adding diacritics are not provided during the zero-shot, therefore, five examples provide a demonstration to the LLMs on how to perform the task especially for low-resource languages like Ghomáá’ and Fon, which have very limited monolingual data online. These two languages improved by +16.4 and 7.2 points, respectively. While the other languages such as Igbo, Wolof and Yorùbá achieved over +5.0 boost in chrF scores. Similarly, for Gemini-1.5 pro, we observed a consistent performance boost for ADR with five demonstration examples.

For both GPT-4o and Gemini-1.5 pro, there is a significant boost in performance across all the text generation tasks we evaluated, which shows that the current models have weaker generative capabilities in these low-resource languages, unless provided with few-shot examples. For Hate speech, we provided a detailed explanation of the distinction between “abusive” content and “hate” in the prompt, but this is often confusing even for native speakers of the language, who often need examples

of such sentences to improve annotation. We found that LLMs also require such additional examples to be able to better predict if a tweet is offensive. In general, Gemma 2 27B improved on several NLU tasks but showed no gains from few-shot examples in token classification, math reasoning, summarization and ADR tasks.

## 6 Discussion

### 6.1 Prompt Variability

In our evaluation, we present results for the Best prompt rather than the Average results over several prompts to ensure no LLM is penalized due to sensitivity to prompt templates. Here, we analyze the difference in the performance scores between the Best prompt and the average over five prompts (or three prompts for the NLG tasks).

Figure 4 presents results from our analysis across 18 tasks. Our **first observation** is that LLMs are not sensitive to different prompts when evaluating text generation tasks, all LLMs exhibit less than a 6 point difference, and the task that is the least sensitive is machine translation (FLORES). The **second observation** is that Gemini-1.5 pro exhibits the lowest sensitivity to different prompt templates on average. The gap in performance across different prompts is often small for several NLU tasks. Interestingly, we find that GPT-4o is highly sensitive to prompts for a tasks such as hate speech, cross-



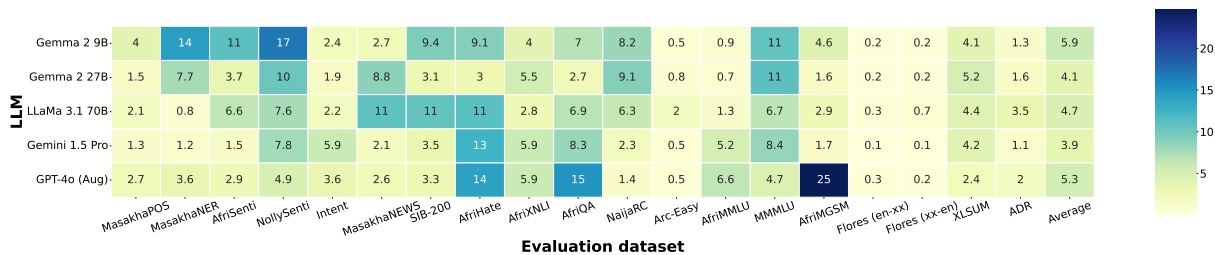


Figure 4: **Prompt Variability:** Heatmap of the difference between the Best and Average prompt results.

Lang.	Shot	Input / Output
<b>ADR:</b> Gemini-1.5 pro		
bbj	<b>Input:</b>	A jwə guŋ tsə awɛ a lə nəŋ kwitə
	<b>Target:</b>	À jwó guŋ tsó awé a lə náj kwító
	<b>0-shot</b>	à jwɛ́ gùŋ tsə́ áwɛ́ à lə náj kwító (ChrF: 21.4)
	<b>5-shot</b>	a jwó guŋ tsó awé a lə nəŋ kwitə (ChrF: 81.6)
<b>Hate speech:</b> Gemini-1.5 pro		
yor	<b>Input:</b>	oloriburuku ni pupo ninu awon igbo yii
	<b>English:</b>	these igbo people are brainless
	<b>Label:</b>	hate
	<b>0-shot</b>	abuse
	<b>5-shot</b>	hate
<b>Math reasoning:</b> GPT-4o		
yor	<b>Input:</b>	Ryan gbin òdòdó 2 ní ojúmọ sí inú oḡbaà rè. Lẹ̀yìn ojọ 15, òdòdó mèlédó ní ó ní tí 5 ò bá wù?
	<b>English:</b>	Ryan plants 2 flowers a day in his garden. After 15 days, how many flowers does he have if 5 did not grow?
	<b>Answer:</b>	25
	<b>0-shot</b>	ryan ní òdòdó 30 tí ó bá n gbin 2 ní ojúmọ
	<b>8-shot</b>	idáhùn: ryan gbin òdòdó 2 ní ojúmọ. lẹ̀yìn ojọ 15, ó máa gbin òdòdó 2 * 15 = 30. tí 5 ò bá wù, ó ní òdòdó 30 - 5 = 25. idáhùn náà ni 25.

Table 7: **Qualitative Analysis** comparison of the 0-shot and 5-shot samples on ADR, Hate speech and Math.

lingual QA and math reasoning—which explains the large difference in performance scores. This analysis shows the benefit of using several prompts in evaluation, although the benefit for text generation tasks are limited. Finally, the largest variability is observed in the smaller Gemma 2 9B model, suggesting that smaller LLMs require more prompt template tuning than larger models, as evidenced by the lower sensitivity of GEMMA 2 27B.

## 6.2 Qualitative Analysis

Table 7 shows the benefit of few-shot examples on ADR, hate speech and math reasoning—the three tasks that improved the most with few-shot examples. For the ADR evaluation on Ghomálá’, we observed an improvement of over 60.0 chrF point, and noticed that only a few characters had incorrect diacritics unlike the zero-shot setting. Similarly, for hate speech, without the few-shot example, the LLM focused on the abusive word “oloriburuku” (i.e. brainless), however, when we consider the target to tweet, it is obvious that it was referring to an entire tribe in Nigeria, which is “hate”. With the

definition of “hate” provided in the prompt, and examples provided, this becomes clearer to the model than without demonstration examples. Finally, for the math reasoning, in zero-shot setting, the LLM often produces *incorrect* or *incomplete* reasoning steps about the Yorùbá question which leads to an incorrect answer. However, when provided with few-shot in the language, GPT-4o came up with more appropriate reasoning steps, leading to the *correct* answer. This observation is particularly promising for many low-resource languages.

## 7 Conclusion

In this paper, we introduce a new benchmark, AFROBENCH, that aggregates existing evaluation datasets for African languages, and adds a *new* dataset focused on diacritics restoration. AFROBENCH comprises 15 NLP tasks, 22 datasets, and 64 African languages under-represented in NLP. We evaluate the performance of several closed and open LLMs on these tasks, showing that they consistently fall behind the fine-tuned baselines. We also observe a large performance gap compared to English, although the gap is smaller for closed models such as GPT-4o and Gemini-1.5 pro. Through this benchmark, we have created a leaderboard focusing on LLM evaluation for African languages, which will be maintained going forward with additional tasks, LLMs, and languages. We will be releasing our prompt and task configurations to Eleuther’s *lm-eval*. We hope this encourages the development of more African-centric LLMs for African languages.<sup>8</sup> Our aim is to continuously add newer LLMs to the leaderboard, we demonstrate this by adding the following LLMs to the AFROBENCH-LITE: Lugha-LLaMa (an African-centric LLM) (Buzaaba et al., 2025), GPT-4.1, Gemini-2.0-Flash, and LLaMa 4 400B (Maverick), as shown in Appendix E.

<sup>8</sup>Our evaluation suite is available at: [The-African-Research-Collective/afrobench-eval-suite](https://github.com/AfricanResearchCollective/afrobench-eval-suite).

## 8 Acknowledgment

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## 9 Limitation

In today’s NLP landscape, large language models are general-purpose models capable of performing multiple NLP tasks without the need for special training on these tasks. These models are often multilingual and can perform tasks in multiple languages. Our research examines how these models perform specifically with African languages, revealing performance disparities when compared to more resourced languages. In this section, we discuss some of the limitations of our research methodology and findings.

**1. Training Data Transparency and Contamination:** One of the challenges in evaluating large language models lies in the limited visibility into their training data composition. While organizations frequently publish training documentation, many reports lack comprehensive details about data mixtures and language distributions across different training stages. This lack of transparency impacts our findings in several ways. Without knowledge of the data mixture — or to what extent — our evaluation sets overlap with the training data. Thus, we cannot conclude that superior performance on certain tasks is a true demonstration of generalization or merely the model’s exposure to similar content during training. In the context of African languages, knowledge of the training data enables us to examine other factors such as cross-lingual transfer, which may inform our interpretation of evaluation results. A clear understanding of training data composition serves as a crucial foundation for meaningful model evaluation. It helps establish the validity of performance metrics and provides

essential context for interpreting results across different languages and tasks.

### 2. Limited Selection of LLMs and Evaluation

**Costs:** We are only able to evaluate a limited set of LLMs due to the computational and financial costs associated with model access and inference. Language models are accessed using two primary methods; loading the pretrained checkpoints directly or using an API service. While providers like Together AI offer access to open-source models and companies like OpenAI provide proprietary model access, both approaches incur considerable costs that directly impact the scope of evaluation studies. In our evaluation, the costs were substantial, requiring approximately \$2,500 each for Gemini-1.5 pro and GPT-4o model access, with an additional \$1,200 for utilizing the Together AI platform. The total evaluation costs manifest in two key dimensions; first, when running the models locally, the GPU requirements for larger models are substantial; second, when using API services, the cost scales directly with the size of the evaluation dataset and number of models. These cost implications impose a limitation on the breadth and depth of our evaluation studies. We had to make strategic decisions about which models to include in our benchmark and how extensively to test them. This financial constraint introduces selection bias in terms of which models and tasks to prioritize, ultimately limiting the scope of our evaluation.

### 3. Long-tail Distribution of Languages Across Tasks & Datasets:

Another limitation of AFROBENCH is the uneven distribution of languages across tasks and datasets. While our evaluation covers 64 languages in total, the coverage across tasks and datasets exhibits a long-tail distribution. As shown in Table F, 60% of the languages appear in fewer than 5 of the 21 datasets. This poses two challenges; first, it limits our ability to accurately assess the performance of LLMs across these underrepresented languages. Secondly, it highlights the gap in the availability of evaluation datasets even among low-resource languages. Without extensive dataset coverage for these languages, conclusions about LLM capabilities across these languages remain tentative.

### 4. Constraints in Machine Translation Metrics:

Machine translation is often evaluated using BLEU and ROUGE, which rely on word-level recall and precision, and chrF, which operates at the character level. Research has shown these met-

rics sometimes demonstrate poor correlation with human judgments of translation quality. Other evaluation metrics that utilize embedding similarity, such as BERTScore (Zhang\* et al., 2020) and COMET (Rei et al., 2020) / AfriCOMET (Wang et al., 2024), which leverages pretrained encoder models to generate scores by comparing translations against reference texts, are promising alternatives. However, these neural evaluation models have limited language coverage, making them unsuitable for many of the languages in our study. As a result, we rely on chrF++, which combines unigram and character n-gram overlap measurements. While this metric provides broader language coverage, it is a compromise between evaluation quality and practical applicability.

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## A Task Based Results

We group tasks using similar evaluation metrics to analyze model performance systematically.

## B LLMs evaluated

Models are selected to cover a range of open- and closed-source LLMs with diverse parameter sizes, multilingual capabilities, and recent advancements. We prioritize models with strong multilingual support, accessibility for research, and relevance to African languages.

### B.0.1 Open Models

These are LLMs whose architectures, weights, and often training datasets are publicly available, allowing researchers and practitioners to fine-tune or adapt them to specific use cases. These models promote transparency, replicability, and accessibility, particularly for low-resource language tasks.

**Aya-101** (Üstün et al., 2024) is a T5-style encoder-decoder model fine-tuned for low-resource multilingual applications, including African languages. It was fine-tuned on a curated dataset, consisting of public multilingual corpora, and machine & human translated datasets from more than 100 languages. The model adopts a text-to-text paradigm and emphasizes cross-lingual transfer learning, allowing for robust generalization across various multilingual text-based tasks.

**LLaMa 2 7B Chat** LLaMa 2 (Touvron et al., 2023) is a collection of open-source pretrained and fine-tuned generative text models developed by Meta, ranging from 7 billion to 70 billion parameters. The 7B Chat variant allows for dialogue use cases. It employs an auto-regressive transformer architecture and has been fine-tuned using supervised fine-tuning (SFT) and reinforcement learning with human feedback (RLHF). These models are pretrained on multiple languages, but have limited coverage of African languages.

**LLaMa 3 8B Instruct** Llama 3 (Dubey et al., 2024) is an updated variant of the LLaMa 2 series (Touvron et al., 2023). The models are instruction-fine-tuned to handle a wide range of text-based tasks. Similar to LLaMa 2, it supports multiple languages, though coverage of African languages remains limited. The number of parameters ranges from 8B to 70B; we use the 8B variant for this evaluation.

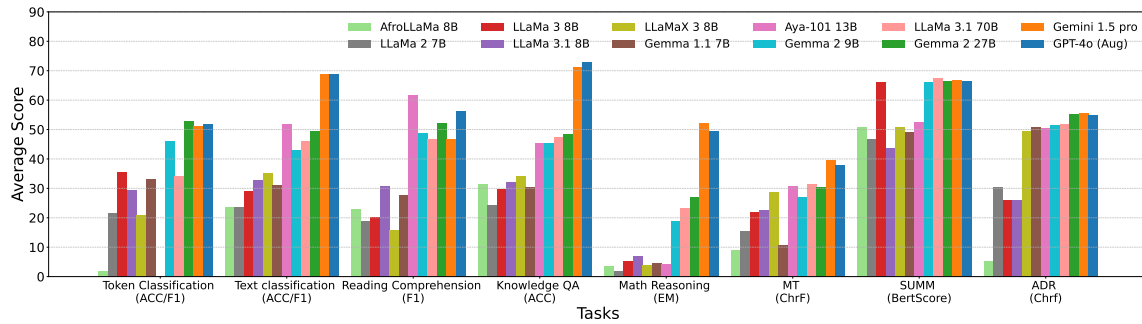


Figure 5: Performance of models across various NLP tasks, grouped by metric-based evaluation categories. Tasks include Token Classification, Text classification, Reading Comprehension QA, Knowledge QA, Math Reasoning, Machine Translation (MT), and Summarization (SUMM) and Diacritics Restoration (ADR).

**LLaMa 3.1 Instruct (8B, 70B)** LLaMa 3.1 (AI, 2024) is an updated variant of the LLaMa 3 series. Compared to LLaMa 3 (Dubey et al., 2024), LLaMa 3.1 (AI, 2024) introduces improvements in multilingual capabilities and general instruction-following. We use the instruction-tuned variants, fine-tuned for a broad range of NLP tasks. While these models support multiple languages, coverage of African languages remains limited. LLaMa 3.1 is available in parameter sizes ranging from 8B to 405B; due to computational cost, we evaluate only the 8B and 70B variants.

**Gemma 1.1 7B IT** (Mesnard et al., 2024) is a lightweight open model from Google, built from the same research and technology used to create the Gemini models. It is a text-to-text, decoder-only large language models, available in English, with open weights, pre-trained variants, and instruction-tuned variants. However, it does not have strong multilingual support. We evaluate the instruction-tuned 7B variant of this model.

**Gemma 2 IT (9B, 27B)** (Riviere et al., 2024) is an improved iteration of the Gemma model series optimized for efficiency. Compared to Gemma 1, Gemma 2 incorporates enhanced instruction-following capabilities and more robust parameter scaling. We evaluate the instruction-tuned variants of Gemma 2 at 9B and 27B parameter sizes.

**AfroLlama-V1** (Health et al., 2024) is a decoder-only transformer model, optimized for African language applications. It leverages proprietary datasets, including text from social media, newspapers, and government publications in African languages. Its architecture is based on LLaMa 3 8B (Dubey et al., 2024), but includes additional pretraining on African-centric text.

## B.0.2 Proprietary Models

These are proprietary systems developed and maintained by organizations. Their training data and architectures are typically undisclosed.

**GPT-4o (Aug)** GPT-4o (OpenAI, 2024) is an optimized version of OpenAI’s GPT-4 model (OpenAI, 2023). It is an autoregressive omni model, trained end-to-end across text, vision, and audio on both public and proprietary data. While specific details about its architecture and datasets are not publicly disclosed, the GPT series is designed to adapt effectively to various language tasks, making it suitable for applications involving African languages. We evaluated the August 2024 version of this model.

**Gemini 1.5 Pro 002.** Gemini (Reid et al., 2024) is a cutting-edge proprietary model with strong multilingual capacity. It’s a compute-efficient multimodal model whose training data is tailored for diverse linguistic contexts, including low-resource languages. Although its training data and architecture remain undisclosed, Gemini is designed to adapt effectively to various language tasks, making it suitable for applications involving African languages.

## C Evaluation Tools and Framework

AfroBench and AfroBench-Lite are fully integrated with Eleuther LM Evaluation Harness (Gao et al., 2024) for open models, with sample run scripts and instructions on how to run the benchmark. We chose Eleuther LM Evaluation Harness due to its open-source and reproducible nature and widespread adoption within the industry. The evaluation methodology varies by task type: text classification and multiple-choice tasks are assessed using log-likelihood evaluation, which measures

the probability of a prompt-generated continuation containing the expected response, while all other tasks utilize free-form generation approaches.

For proprietary models accessed through their API, we developed a custom framework to prompt and evaluate these models. This framework is also open-sourced with sample run scripts and instructions on how to reproduce the benchmarks. The same prompt and evaluation methodology for task is used in both the LM Evaluation Harness and our custom API framework.

## **D AfroBench Evaluation with Confidence Scores**

We computed 95% confidence intervals for AfroBench results to quantify statistical significance. The calculation was based on the results of 5 prompts for each task (3 prompts for NLG tasks). [Table 9](#) presents the average performance and confidence intervals across prompts to assess variability and significance.

## **E Newer LLM evaluation on AfroBench-Lite**

We extend our evaluation for AFROBENCH-LITE to include newer LLMs such as Lughu-LLaMa (an African-centric LLM) ([Buzaaba et al., 2025](#)), GPT-4.1, Gemini-2.0-Flash, and LLaMa 4 400B (Maverick) in [Table 8](#).

## **F Languages covered in the evaluation**

[Table 10](#) lists the languages and corresponding tasks evaluated.

Model	Lang	Intent	TC	NLI	RC	MMLU	Math	MT en/fr-xx	AVG
Lugha-Llama 8B	eng	16.7	43.6	46.8	22.4	31.8	6.4	51.3	31.3
	africa	4.1	34.1	36.7	23.0	25.2	1.8	22.1	21.0
Gemma 1.1 7B	eng	72.1	86.3	59.2	87.9	44.6	20.8	26.1	56.7
	africa	10.2	42.0	34.6	34.1	27.3	5.1	10.9	23.5
Gemma 2 9B	eng	36.3	82.5	70.7	<u>93.7</u>	69.8	68.8	67.9	70.0
	africa	27.8	64.0	40.9	49.3	36.1	21.7	37.2	39.6
LLaMa 3.1 70B	eng	84.5	88.3	59.5	93.2	76.4	86.8	71.6	80.0
	africa	36.9	61.9	38.4	45.3	40.6	26.5	29.6	39.9
Aya-101 13B	eng	78.0	82.8	67.0	86.1	42.8	11.6	64.2	61.8
	africa	40.2	76.0	52.4	59.7	30.3	4.9	31.8	42.2
Gemma 2 27B	eng	84.0	89.3	67.8	93.4	75.6	85.6	68.5	80.6
	africa	31.4	66.6	43.7	52.1	40.8	30.6	39.1	43.5
LLaMa 4 405B	eng	88.9	84.8	49.2	25	11.2	97.6	73	61.4
	africa	73.9	80.6	45.5	24.6	15.8	65.0	42.8	49.7
Gemma 3 27B	eng	79.6	87.3	65.5	93.4	74.2	87.6	68.9	79.5
	africa	55.2	74.2	51.2	62.4	44.4	47.5	33.1	52.6
Gemini 1.5 pro	eng	86.8	88.7	88.5	69.6	<u>88.8</u>	86.8	69.1	82.6
	africa	75.6	81.3	63.6	54.4	62.6	57.7	44.2	62.8
GPT-4o (Aug)	eng	86.2	<u>89.2</u>	89.2	84.3	88.0	88.8	70.2	<u>85.1</u>
	africa	78.4	83.0	66.3	<b>70.3</b>	<b>63.1</b>	57.3	43.6	66.0
Gemini 2.0 Flash	eng	87.6	86.8	87	63	80.8	92.8	<u>73.1</u>	79.7
	africa	82.5	<b>84.9</b>	66.5	56.8	57.8	<b>67.5</b>	<b>49.6</b>	66.5
GPT-4.1 (April)	eng	87.8	89.7	88.5	73.9	71.4	82.4	<u>73.1</u>	81.0
	africa	<b>84.4</b>	84.8	<b>67.5</b>	64.8	60.2	59.9	47.3	<b>67.0</b>

Table 8: **AfroBench-Lite Evaluation (NEW)**: LLM baselines on 7 datasets spanning 14 African languages (sorted by performance on African languages). Tasks were selected for broad NLP coverage, prioritizing language consistency. The best score per task is in **bold**.

Task	LLaMa2 7B	LLaMa3 8B	LLaMaX 8B	LLaMa3.1 8B	AfroLLaMa 8B	Gemma2 9B	Aya-101 13B	Gemma2 27B	LLaMa3.1 70B	Gemini1.5 Pro	GPT-4o (Aug)
POS	22.6±13.6	45.8±4.4	38.7±4.4	42.9±6.5	0.0±0.0	47.9±7.9	0.0±0.0	53.6±3.1	52.0±4.7	59.5±3.0	60.1±5.9
NER	11.1±10.7	17.3±8.3	0.0±0.0	7.7±5.6	2.9±2.2	25.9±30.8	0.0±0.0	43.1±11.4	12.9±5.8	40.6±3.6	37.1±6.8
SA	37.5±17.0	39.7±16.3	44.5±17.1	45.7±18.4	39.8±25.2	48.3±29.0	60.0±9.8	58.4±17.3	43.4±18.3	65.4±15.2	64.6±17.7
TC	15.3±14.5	24.6±26.9	23.5±32.0	37.5±26.4	16.9±22.1	51.6±15.9	68.9±4.4	59.4±8.7	47.0±17.5	73.5±10.2	73.3±4.9
Intent	0.8±1.5	0.9±2.3	3.1±3.8	4.0±5.0	0.3±1.0	29.2±5.6	42.4±4.6	33.0±4.9	31.8±7.4	68.4±12.2	70.4±6.6
Hate	16.8±10.8	21.8±11.0	23.0±12.5	19.3±5.9	15.2±8.1	21.3±13.0	28.7±—	36.6±15.0	36.5±29.3	49.7±33.5	49.5±37.6
NLI	33.4±1.5	33.7±2.7	35.0±6.8	34.3±3.8	34.2±4.4	36.3±6.6	48.3±5.3	37.3±7.3	35.2±5.4	56.1±15.9	58.4±11.4
XQA	10.4±5.7	9.6±5.6	2.0±0.5	14.1±14.3	19.2±5.2	39.3±13.8	61.9±1.6	47.7±7.6	37.1±8.7	34.8±11.8	31.6±25.0
RC	24.3±3.5	28.0±8.2	24.6±5.7	36.2±16.2	24.4±2.5	47.7±26.2	55.2±29.4	47.6±28.8	44.5±16.8	52.7±7.6	71.4±3.2
Arc-E	21.0±4.3	30.8±3.8	39.3±2.6	31.7±3.0	35.8±2.8	52.9±1.8	59.3±1.4	55.5±1.9	55.4±4.3	83.8±2.1	85.2±1.4
MMLU	24.5±2.4	26.7±2.2	28.0±1.4	30.3±4.5	25.1±1.9	34.8±8.8	30.4±4.0	38.9±9.6	37.9±8.6	50.7±12.2	55.3±15.5
Math	1.8±1.3	4.2±3.2	3.7±2.5	5.5±3.4	0.1±0.4	14.1±8.0	4.3±1.6	25.4±4.8	20.3±5.4	46.6±20.3	48.7±4.2
MT (en-xx)	7.9±7.1	15.0±4.7	21.9±4.6	16.1±2.5	7.4±3.2	24.5±1.2	23.0±2.9	27.5±2.8	24.7±5.2	37.6±1.9	34.4±2.9
MT (xx-en)	17.8±7.5	23.1±11.0	34.0±5.0	27.7±3.8	8.3±3.0	28.8±0.8	36.9±4.1	32.7±1.5	35.8±8.8	41.7±0.8	40.5±1.5
ADR	22.8±19.2	24.1±7.4	47.2±6.6	23.1±6.8	4.3±2.4	50.3±4.4	49.8±1.8	53.5±4.4	48.2±16.2	54.5±4.2	52.9±5.0

Table 9: Model performance based on average with standard deviation at 95% confidence intervals



	Language	Branch	Region (of Africa)	Script	# speakers
Afro-Asiatic	Algerian Arabic (arq)	Semitic	North	Arabic	36M
	Amharic (amh)	Ethio-Semitic	East	Ge'ez	57M
	Egyptian Arabic (arz)	Semitic	North	Arabic	41M
	Hausa (hau)	Chadic	West	Latin	77M
	Kabyle (kab)	Berber	North	Arabic	3M
	Oromo (orm)	Cushitic	East	Latin	37M
	Moroccan Arabic (ary)	Semitic	North	Arabic	29M
	Somali (som)	Cushitic	East	Latin	22M
	Tamasheq (taq)	Berber	East	Latin	1M
	Tamazight (tzm)	Berber	East	Latin	-
	Tigrinya (tig)	Ethio-Semitic	East	Ge'ez	9M
	Tunisian Arabic (aeb)	Semitic	North	Arabic	12M
Niger-Congo	Akan (aka)	Tano	West	Latin	10M
	Bambara (bam)	Mande	West	Latin	14M
	Bemba (bem)	Bantu	South/East/Central	Latin	4M
	Chichewa (nya)	Bantu	South-East	Latin	14M
	chiShona (sna)	Bantu	Southern	Latin	11M
	Chokwe (cjk)	Bantu	South/Central	Latin	1M
	Dyula (dyu)	Mande	West	Latin	3M
	Éwé (ewe)	Kwa	West	Latin	7M
	Fon (fon)	Volta-Niger	West	Latin	14M
	Ghomálá' (bbj)	Grassfields	Central	Latin	1M
	Igbo (ibo)	Volta-Niger	West	Latin	31M
	isiXhosa (xho)	Bantu	Southern	Latin	19M
isiZulu (zul)	Bantu	Southern	Latin	27M	
Niger-Congo	Kabiyè (kbp)	Gur	West	Latin	1M
	Kamba (kam)	Bantu	East	Latin	5M
	Kikongo (kon)	Bantu	South/Central	Latin	5M
	Kikuyu (kik)	Bantu	East	Latin	8M
	Kimbundu (kmb)	Bantu	Southern	Latin	2M
	Kinyarwanda (kin)	Bantu	East	Latin	10M
	Kiswahili (swa)	Bantu	East/Central	Latin	71-106M
	Lingala (lin)	Bantu	Central	Latin	40M
	Luba-Kasai (lua)	Bantu	Central	Latin	6M
	Luganda (lug)	Bantu	Central	Latin	11M
	Lugbara (lgg)				
	Mossi (mos)	Gur	West	Latin	8M
Nigerian Fulfulde (fuv)	Senegambia	West	Latin	15M	
N'Ko (nqo)	Mande	West	Latin	-	
Northern Sotho (nso)	Bantu	Southern	Latin	4M	
Rundi (run)	Bantu	East	Latin	11M	
Runyankole (nyn)					
Sango (sag)	Ubangian	Central	Latin	5M	
Setswana (tsn)	Bantu	Southern	Latin	14M	
Southern Sotho (sot)	Bantu	Southern	Latin	7M	
Swati (ssw)	Bantu	Southern	Latin	1M	
Twi (twi)	Kwa	West	Latin	9M	
Tumbuka (tum)	Bantu	South/East	Latin	2M	

*Continued on next page*

	Language	Branch	Region (of Africa)	Script	# speakers
	Umbundu (umb)	Bantu	Southern	Latin	7M
	Xitsonga (tso)	Bantu	Southern	Latin	7M
	Wolof (wol)	Senegambia	West	Latin	5M
	Yoruba (yor)	Volta-Niger	West	Latin	46M
Nilo-Saharan	Acholi (ach)	Nilotic	East	Latin	1.5M
	Ateso (teo)	Nilotic	East	Latin	2.8M
	Dinka (dik)	Nilotic	Central	Latin	4M
	Kanuri (knc)	Saharan	West/Central	Latin	10M
	Kanuri (knc)	Saharan	West/Central	Arabic	10M
	Luo (luo)	Nilotic	East	Latin	4M
	Neur (nus)	Nilotic	Central	Latin	2M
Austronesian	Malagasy (plt)	Malayo-Polynesian	Southern	Latin	25M
Indo-European	Afrikaans (afr)	Germanic	Southern	Latin	7M
	Mozambican Portuguese (pt-MZ)	Italic	South East	Latin	13M
Creoles	Nigerian Pidgin (pcm)	English-based	West	Latin	121M
	Kabuverdianu (kea)	Portuguese-based	West	Latin	1M

Table 10: **Languages covered in each of our evaluation tasks:** language family, region, script, number of L1/L2 speakers

Lang.	Classification								Reasoning	Question Answering						Generation	# Tasks						
	AFRIHATE	AFRISENTI	AFRIXNLI	INJONGO-INTENT	NOLLYSENTI	MASAKHANEWS	MASAKHANER	MASAKHAPOS	SIB-200	AFRIMGSM	AFRIMMLU	AFRIQA	BELEBELE	NAIJARC	OPENAI-MMLU	UHURA		AFRIADR	FLORES	MAFAND	NTREX-128	SALT	XL-SUM
aeb								✓									✓						2
ach																							1
afr												✓					✓			✓			3
aka								✓									✓						2
amh	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓	✓			✓	✓	✓	✓	✓				14
ara														✓								✓	2
arq	✓	✓																					2
ary	✓	✓																					5
arz																	✓						3
bam													✓				✓		✓				6
bbj																✓			✓				4
bem											✓						✓			✓			4
cjk																	✓						2
dik																	✓						2
dyu																	✓						2
ewe				✓	✓		✓	✓	✓	✓	✓						✓	✓	✓	✓			10
fon												✓				✓	✓	✓					6
fuv																							1
gaz																	✓						2
hau	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓		✓	19
ibo	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓			✓	✓	✓	✓	✓	✓	✓	19
kab																	✓						2
kam																	✓						2
kbp																	✓						2
kea																	✓						2
kik																	✓						2
kin	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓						✓	✓	✓				13
kmb																	✓						2
knc																	✓						2
kon																	✓						2
lgg																							1
lin				✓	✓	✓			✓	✓		✓					✓						8
lua																	✓						2
lug				✓	✓	✓	✓	✓	✓	✓	✓					✓	✓	✓				✓	11
luo																	✓	✓					5
mos																	✓	✓					5
nde																				✓			1
nso																	✓		✓				3
nus																	✓						2
nya																	✓	✓	✓				6

Continued on next page

Lang.	Classification								Reasoning	Question Answering					Generation					# Tasks			
	AFRIHATE	AFRISENTI	AFRIXNLI	INJONGO-INTENT	NOLLYSENTI	MASAKHANEWS	MASAKHANER	MASAKHAPOS	SIB-200	AFRIMGSM	AFRIMMLU	AFRIQA	BELEBELE	NAIJARC	OPENAI-MMLU	UHURA	AFRIADR	FLORES	MAFAND		NTREX-128	SALT	XL-SUM
nyn																							1
orm	✓	✓	✓	✓		✓			✓	✓												✓	9
pcm	✓	✓				✓	✓	✓										✓				✓	7
plt								✓									✓						3
run						✓		✓									✓						3
sag								✓									✓						2
sna			✓	✓		✓	✓	✓	✓	✓	✓	✓					✓	✓	✓				12
som	✓					✓		✓									✓		✓			✓	6
sot			✓	✓					✓	✓							✓						5
ssw								✓									✓		✓				3
swa	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓	✓		✓	✓		✓	✓	✓	✓	✓	✓	18
taq																	✓						1
teo																							1
tir	✓	✓				✓		✓				✓					✓		✓		✓		8
tsn							✓	✓									✓	✓	✓				5
tso		✓						✓				✓											3
tum								✓									✓						2
twi		✓	✓	✓		✓	✓	✓	✓	✓	✓						✓	✓					11
tzm								✓									✓						2
umb								✓									✓						2
ven																					✓		1
wol			✓	✓		✓	✓	✓			✓	✓				✓	✓	✓	✓	✓	✓		12
xho	✓		✓	✓		✓	✓	✓	✓	✓	✓	✓					✓	✓	✓	✓	✓		13
yor	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	21
zul	✓		✓	✓		✓	✓	✓	✓	✓	✓	✓		✓			✓	✓	✓				14

Table 11: **Languages covered in each of our evaluation tasks:** check marks (✓) indicate that a language is covered by the task in that column. While 13 languages are covered by  $\geq 10$  tasks, 44 languages are covered by  $\leq 5$  tasks. SIB-200 and FLORES have the broadest coverage of African languages. In general, classification and generation tasks have better coverage of African languages than reasoning and question answering tasks.



## **G Best Performing Prompt**

The table below details which prompt performed best for each model on each dataset. The actual prompts can be found in [Appendix H](#).

Task	Dataset	AfroLLaMa 8B	LLaMAX3 8B	LLaMa2 7b	LLaMa3 8B	LLaMa3.1 8B	LLaMa3.1 70B	Aya-101 13B	Gemma1.1 7b	Gemma2 9b	Gemma2 27b	Gemini 1.5 Pro	GPT-4o (Aug)
SA	AfriSenti	T4	T3	T5	T5	T5	T5	T3	T5	T5	T5	T3	T2
	NollySenti	T5	T3	T4	T3	T4	T4	T5	T4	T4	T4	T1	T3
TC	Masakhanews	T3	T3	T4	T3	T3	T3	T2	T2	T3	T3	T2	T2
	SIB	T3	T3	T5	T2	T2	T3	T4	T4	T5	T3	T5	T3
TokC	MasakhaNER	T4	T1	T5	T3	T3	T5	T1	T5	T2	T1	T3	T3
	MasakhaPOS	T1	T5	T1	T2	T2	T2	T1	T2	T2	T3	T3	T3
Intent	InjongoIntent	T1	T5	T4	T5	T3	T4	T5	T5	T5	T5	T5	T4
Hate	AfriHATE	T5	T4	T3	T1	T4	T4	T1	T4	T1	T4	T1	T4
NLI	AfriXNLI	T2	T1	T3	T2	T2	T2	T4	T2	T2	T2	T3	T3
XQA	AfriQA	T5	T4	T5	T5	T5	T2	T2	T2	T2	T2	T2	T2
RC	NaijaRC	T4	T5	T4	T1	T5	T5	T4	T3	T4	T5	T3	T2
	Belebele	T2	T5	T4	T1	T5	T5	T5	T3	T5	T5	T1	T1
Arc-E	Uhura-Arc Easy	T1	T4	T1	T5	T3	T2	T2	T1	T4	T4	T1	T3
MMLU	AfriMMLU	T5	T5	T1	T4	T3	T1	T2	T1	T1	T1	T1	T1
	Openai-MMLU	T5	T4	T3	T5	T5	T5	T5	T5	T3	T5	T1	T1
Math	AfriMGSM	T1	T4	T3	T4	T4	T4	T1	T1	T2	T4	T5	T2
MT	Flores en_xx	T3	T2	T1	T1	T2	T2	T1	T2	T2	T2	T2	T3
	Flores xx_en	T1	T3	T3	T1	T3	T2	T3	T1	T2	T2	T1	T2
	Mafand en_xx	T1	T2	T2	T2	T2	T2	T1	T1	T2	T2	T3	T1
	Mafand xx_en	T3	T2	T2	T2	T2	T2	T2	T1	T2	T1	T3	T1
	NTREX en_xx	T3	T2	T1	T1	T2	T2	T2	T1	T1	T3	T2	T2
	NTREX xx_en	T1	T2	T3	T1	T2	T2	T2	T1	T2	T2	T2	T2
	Salt en_xx	T2	T1	T1	T2	T1	T2	T3	T1	T3	T2	T2	T3
	Salt xx_en	T1	T2	T3	T1	T3	T3	T3	T1	T2	T2	T2	T2
Summ	XLSUM	T3	T3	T3	T3	T3	T3	T1	T3	T1	T1	T3	T1
ADR	ADR	T4	T4	T2	T4	T4	T3	T1	T3	T4	T3	T2	T1

Table 12: Best-performing prompts per model for each dataset. These prompts achieved the highest scores reported in the paper

## H Prompt Bank

In this section, we list all prompts used in our experiments. We use zero-shot cross-lingual prompts, where the context and query are in English, while the input text is in the target African language. This approach leverages LLMs' stronger ability to follow instructions in English (Lin et al., 2021; Shi et al., 2022). The prompts are grouped by task category, as shown in Figure 2.

### H.1 Natural Language Understanding

#### POS prompts:

##### Listing 1: MasakhaPOS Prompt 1

Please provide the POS tags for each word in the input sentence. The input will be a list of words in the sentence. The output format should be a list of tuples, where each tuple consists of a word from the input text and its corresponding POS tag label from the tag label set: ['ADJ', 'ADP', 'ADV', 'AUX', 'CCONJ', 'DET', 'INTJ', 'NOUN', 'NUM', 'PART', 'PRON', 'PROPN', 'PUNCT', 'SCONJ', 'SYM', 'VERB', 'X']. Your response should include only a list of tuples, in the order that the words appear in the input sentence, including punctuations, with each tuple containing the corresponding POS tag label for a word.

Sentence: {{text}}  
Output:

##### Listing 2: MasakhaPOS Prompt 2

You are an expert in tagging words and sentences in {{language}} with the right POS tag. Please provide the POS tags for each word in the {{language}} sentence. The input is a list of words in the sentence. POS tag label set: ['ADJ', 'ADP', 'ADV', 'AUX', 'CCONJ', 'DET', 'INTJ', 'NOUN', 'NUM', 'PART', 'PRON', 'PROPN', 'PUNCT', 'SCONJ', 'SYM', 'VERB', 'X']. The output format should be a list of tuples, where each tuple consists of a word from the input text and its corresponding POS tag label from the POS tag label set provided. Your response should include only a list of tuples, in the order that the words appear in the input sentence, including punctuations, with each tuple containing the corresponding POS tag label for a word.

Sentence: {{text}}  
Output:

##### Listing 3: MasakhaPOS Prompt 3

Acting as a {{language}} linguist and without making any corrections or changes to the text, perform a part of speech (POS) analysis of the sentences using the following POS tag label annotation ['ADJ', 'ADP', 'ADV', 'AUX', 'CCONJ', 'DET', 'INTJ', 'NOUN', 'NUM', 'PART', 'PRON', 'PROPN', 'PUNCT', 'SCONJ', 'SYM', 'VERB', 'X']. The input will be a list of words in the sentence. The output format should be a list of tuples, where each tuple consists of a word from the input text and its corresponding POS tag label from the POS tag label set provided. Your response should include only a list of tuples, in the order that the words appear in the input sentence, including punctuations, with each tuple containing the corresponding POS tag label for a word.

Sentence: {{text}}  
Output:

##### Listing 4: MasakhaPOS Prompt 4

Annotate each word in the provided sentence with the appropriate POS tag. The annotation list is given as: ['ADJ', 'ADP', 'ADV', 'AUX', 'CCONJ', 'DET', 'INTJ', 'NOUN', 'NUM', 'PART', 'PRON', 'PROPN', 'PUNCT', 'SCONJ', 'SYM', 'VERB', 'X']. The input sentence will be a list of words in the sentence. The output format should be a list of tuples, where each tuple consists of a word from the input text and its corresponding POS tag label from the POS tag label set provided. Your response should include only a list of tuples, in the order that the words appear in the input sentence, including punctuations, with each tuple containing the corresponding POS tag label for a word.

Sentence: {{text}}  
Output:

##### Listing 5: MasakhaPOS Prompt 5

Given the following sentence, identify the part of speech (POS) for each word. Use the following POS tag set:  
NOUN: Noun (person, place, thing),  
VERB: Verb (action, state),  
ADJ: Adjective (describes a noun),  
ADV: Adverb (modifies a verb, adjective, or adverb),  
PRON: Pronoun (replaces a noun),  
DET: Determiner (introduces a noun),  
ADP: Adposition (preposition or postposition),  
CCONJ: Conjunction (connects words, phrases, clauses)  
PUNCT: Punctuation,  
PROPN: Proper Noun,  
AUX: Auxiliary verb (helper verb), \nSCONJ: Subordinating conjunction  
PART: Particle,  
SYM: Symbol,  
INTJ: Interjection,  
NUM: Numeral,  
X: others. The output format should be a list of tuples, where each tuple consists of a word from the input text and its corresponding POS tag label key only from the POS tag set provided. Your response should include only a list of tuples, in the order that the words appear in the input sentence, including punctuations, with each tuple containing the corresponding POS tag label for a word.

Sentence: {{text}}  
Output:

#### NER prompts:

##### Listing 1: MasakhaNER Prompt 1

Named entities refers to names of location, organisation and personal name. For example, 'David is an employee of Amazon and he is visiting New York next week to see Esther' will be  
PERSON: David \$ ORGANIZATION: Amazon \$ LOCATION: New York \$ PERSON: Esther  
Ensure the output strictly follows the format: label : entity \$ label: entity, with each unique entity on a separate label line, avoiding grouped entities (e.g., avoid LOC: entity, entity) or irrelevant entries like none.  
Text: {{text}}  
Return only the output

##### Listing 2: MasakhaNER Prompt 2

You are working as a named entity recognition expert and your task is to label a given text with named entity labels. Your task is to identify and label any named entities present in the text. The named entity labels that you will be using are PER (person), LOC (location), ORG (organization) and DATE (date). Label multi-word entities as a single named entity. For words which are not part of any named entity, do not return any value for it.

Ensure the output strictly follows the format: label : entity \$\$ label: entity, with each unique entity on a separate label line, avoiding grouped entities (e.g., avoid LOC: entity, entity) or irrelevant entries like none. Return only the output

Text: {{text}}

### Listing 3: MasakhaNER Prompt 3

You are a Named Entity Recognition expert in {{ language}} language.  
Extract all named entities from the following {{ language}} text and categorize them into PERSON , LOCATION, ORGANIZATION, or DATE.  
Ensure the output strictly follows the format; label : entity \$\$ label: entity, with each unique entity on a separate label line, avoiding grouped entities (e.g., avoid LOC: entity, entity) or irrelevant entries like none. Return only the output

Text: {{text}}  
Return only the output

### Listing 4: MasakhaNER Prompt 4

As a {{language}} linguist, label all named entities in the {{language}} text below with the categories: PERSON, LOCATION, ORGANIZATION, and DATE. Ensure the output strictly follows the format; label: entity \$\$ label: entity, with each unique entity on a separate label line, avoiding grouped entities (e.g., avoid LOC: entity, entity) or irrelevant entries like none . Return only the output.

Text: {{text}}  
Return only the output

### Listing 5: MasakhaNER Prompt 5

Provide a concise list of named entities in the text below. Use the following labels: PERSON, LOCATION, ORGANIZATION, and DATE. Ensure the output strictly follows the format; label: entity \$\$ label: entity, with each unique entity on a separate label line, avoiding grouped entities (e.g., avoid LOC: entity, entity) or irrelevant entries like none. Return only the output.

Text: {{text}}  
Return only the output

## Sentiment prompts:

### Listing 1: AfriSenti Prompt 1

Does this statement; "{{tweet}}" have a Neutral, Positive or Negative sentiment? Labels only

### Listing 2: AfriSenti Prompt 2

Does this {{language}} statement; "{{tweet}}" have a Neutral, Positive or Negative sentiment? Labels only

### Listing 3: AfriSenti Prompt 3

You are an assistant able to detect sentiments in tweets.

Given the sentiment labels Neutral, Positive or Negative; what is the sentiment of the {{ language}} statement below? Return only the labels.

text: {{tweet}}  
label:

### Listing 4: AfriSenti Prompt 4

Label the following text as Neutral, Positive, or Negative. Provide only the label as your response.

text: {{tweet}}  
label:

### Listing 5: AfriSenti Prompt 5

You are tasked with performing sentiment classification on the following {{language}} text. For each input, classify the sentiment as positive, negative, or neutral. Use the following guidelines:

Positive: The text expresses happiness, satisfaction , or optimism.  
Negative: The text conveys disappointment, dissatisfaction, or pessimism.  
Neutral: The text is factual, objective, or without strong emotional undertones.  
If the text contains both positive and negative sentiments, choose the dominant sentiment. For ambiguous or unclear sentiments, select the label that best reflects the overall tone. Please provide a single classification for each input.

text: {{tweet}}  
label:

### Listing 6: NollySenti Prompt 1

Does this movie description "{{review}}" have a Positive or Negative sentiment? Labels only

### Listing 7: NollySenti Prompt 2

Does this {{language}} movie description; "{{review }}" have a Positive or Negative sentiment? Labels only

### Listing 8: NollySenti Prompt 3

You are an assistant able to detect sentiment in movie reviews.

Given the sentiment labels Positive or Negative; what is the sentiment of the English statement below? Return only the labels

Review: {{review}}"

### Listing 9: NollySenti Prompt 4

Label the following text as Positive, or Negative. Provide only the label as your response.

text: {{review}}  
label:

### Listing 10: NollySenti Prompt 5

You are tasked with performing sentiment classification on the following English text. For each input, classify the sentiment as positive, negative. Use the following guidelines:

Positive: The text expresses happiness, satisfaction, or optimism.  
Negative: The text conveys disappointment, dissatisfaction, or pessimism.  
If the text contains both positive and negative sentiments, choose the dominant sentiment. For ambiguous or unclear sentiments, select the label that best reflects the overall tone. Please provide a single classification for each input.

text: {{review}}  
label:

## Topic Classification prompts:

### Listing 1: SIB Prompt 1

Given the categories science/technology, travel, politics, sports, health, entertainment, or geography; what category does the text: '{{text}}' belong to:

### Listing 2: SIB Prompt 2

Does this {{language}} topic; '{{text}}' belong to one of the following categories: science/technology, travel, politics, sports, health, entertainment, or geography? category only

### Listing 3: SIB Prompt 3

You are an assistant able to classify topics in texts.

Given the categories science/technology, travel, politics, sports, health, entertainment, or geography; what is the topic of the {{language}} statement below? Return only the category.

text: {{text}}  
category: "

### Listing 4: SIB Prompt 4

Label the following text as science/technology, travel, politics, sports, health, entertainment, or geography. Provide only the category as your response.

text: {{text}}  
category:

### Listing 5: SIB Prompt 5

You are tasked with performing topic classification on the following {{language}} text. For each input, classify the topic as science/technology, travel, politics, sports, health, entertainment, or geography. Use the following guidelines:

science/technology: The text discusses scientific discoveries, technological advancements, or related topics.  
travel: The text describes travel experiences, destinations, or related topics.  
politics: The text covers political events, policies, or related topics.  
sports: The text talks about sports events, athletes, or related topics.  
health: The text addresses health issues, medical advancements, or related topics.  
entertainment: The text pertains to movies, music, celebrities, or related topics.  
geography: The text involves geographical information, locations, or related topics.

If the text contains multiple topics, choose the dominant topic. For ambiguous or unclear topics, select the category that best reflects the overall content. Please provide a single classification for each input.

text: {{text}}  
category:

### Listing 6: MasakhaNEWS Prompt 1

Given the categories technology, business, politics, sports, health, entertainment, or religion; what category does the text: '{{headline}}' belong to:

Return only the one category

### Listing 7: MasakhaNEWS Prompt 2

Does this {{language}} topic; '{{headline}}' belong to one of the following categories: technology, business, politics, sports, health, entertainment, or religion? category only

### Listing 8: MasakhaNEWS Prompt 3

You are an assistant able to classify topics in texts.

Given the categories technology, religion, politics, sports, health, entertainment, or business; what is

text: {{headline}}  
category:

### Listing 9: MasakhaNEWS Prompt 4

Label the following text as technology, religion, politics, sports, health, entertainment, or geography. Provide only the category as your response.

text: {{headline}}  
category:

### Listing 10: MasakhaNEWS Prompt 5

You are tasked with performing topic classification on the following {{language}} text. For each input, classify the topic as technology, business, politics, sports, health, entertainment, or religion. Use the following guidelines:

technology: The text discusses scientific discoveries, technological advancements, or related topics.  
politics: The text covers political events, policies, or related topics.  
sports: The text talks about sports events, athletes, or related topics.  
health: The text addresses health issues, medical advancements, or related topics.  
entertainment: The text pertains to movies, music, celebrities, or related topics.  
religion: The text talks about religions, religious institutions and beliefs or related topics.  
business: The text covers economy, business, or related topics.

If the text contains multiple topics, choose the dominant topic. For ambiguous or unclear topics, select the category that best reflects the overall content. Please provide a single classification for each input.

text: {{headline}}  
category:

## Intent Detection prompts:

### Listing 1: IngongoIntent Prompt 1

Given the text: '{{text}}', classify it into one of these intents: [alarm, balance, bill\_balance, book\_flight, book\_hotel, calendar\_update, cancel\_reservation, car\_rental, confirm\_reservation, cook\_time, exchange\_rate, food\_last, freeze\_account, ingredients\_list, interest\_rate, international\_visa, make\_call, meal\_suggestion, min\_payment, pay\_bill, pin\_change, play\_music, plug\_type, recipe, restaurant\_reservation, restaurant\_reviews, restaurant\_suggestion, share\_location, shopping\_list\_update, spending\_history, text, time, timezone, transactions, transfer, translate, travel\_notification, travel\_suggestion, update\_playlist, weather]. Only output one intent from the list.

## Listing 2: IngongoIntent Prompt 2

Analyze the text: '{{text}}'. Choose the most appropriate intent from these options: [alarm, balance, bill\_balance, book\_flight, book\_hotel, calendar\_update, cancel\_reservation, car\_rental, confirm\_reservation, cook\_time, exchange\_rate, food\_last, freeze\_account, ingredients\_list, interest\_rate, international\_visa, make\_call, meal\_suggestion, min\_payment, pay\_bill, pin\_change, play\_music, plug\_type, recipe, restaurant\_reservation, restaurant\_reviews, restaurant\_suggestion, share\_location, shopping\_list\_update, spending\_history, text, time, timezone, transactions, transfer, translate, travel\_notification, travel\_suggestion, update\_playlist, weather]. Respond with only the selected intent.

## Listing 3: IngongoIntent Prompt 3

You are a linguistic analyst trained to understand user intent. Based on the text: '{{text}}', choose the intent that best matches from this list: [alarm, balance, bill\_balance, book\_flight, book\_hotel, calendar\_update, cancel\_reservation, car\_rental, confirm\_reservation, cook\_time, exchange\_rate, food\_last, freeze\_account, ingredients\_list, interest\_rate, international\_visa, make\_call, meal\_suggestion, min\_payment, pay\_bill, pin\_change, play\_music, plug\_type, recipe, restaurant\_reservation, restaurant\_reviews, restaurant\_suggestion, share\_location, shopping\_list\_update, spending\_history, text, time, timezone, transactions, transfer, translate, travel\_notification, travel\_suggestion, update\_playlist, weather]. Return only the intent.

## Listing 4: IngongoIntent Prompt 4

You are an English linguistic analyst trained to understand {{language}} user intent. Based on the {{language}} text: "{{text}}", choose the intent that best matches from this list: [alarm, balance, bill\_balance, book\_flight, book\_hotel, calendar\_update, cancel\_reservation, car\_rental, confirm\_reservation, cook\_time, exchange\_rate, food\_last, freeze\_account, ingredients\_list, interest\_rate, international\_visa, make\_call, meal\_suggestion, min\_payment, pay\_bill, pin\_change, play\_music, plug\_type, recipe, restaurant\_reservation, restaurant\_reviews, restaurant\_suggestion, share\_location, shopping\_list\_update, spending\_history, text, time, timezone, transactions, transfer, translate, travel\_notification, travel\_suggestion, update\_playlist, weather]. Return only the intent.

## Listing 5: IngongoIntent Prompt 5

The following text is in {{language}}: '{{text}}'. Given the list of intents: [alarm, balance, bill\_balance, book\_flight, book\_hotel, calendar\_update, cancel\_reservation, car\_rental, confirm\_reservation, cook\_time, exchange\_rate, food\_last, freeze\_account, ingredients\_list, interest\_rate, international\_visa, make\_call, meal\_suggestion, min\_payment, pay\_bill, pin\_change, play\_music, plug\_type, recipe, restaurant\_reservation, restaurant\_reviews, restaurant\_suggestion, share\_location, shopping\_list\_update, spending\_history, text, time, timezone, transactions, transfer, translate, travel\_notification, travel\_suggestion, update\_playlist, weather], identify the intent expressed in the text. Return only the identified intent.

## Hate Speech prompts:

### Listing 1: AfriHate Prompt 1

I am providing you with the definition Hate speech, Abusive language and Normal tweets.  
 Hate speech is a language content that expresses hatred towards a particular group or individual based on their political affiliation, race, ethnicity, religion, gender, sexual orientation, or other characteristics. It also includes threats of violence  
 Abusive language is any form of bad language expressions including rude, impolite, insulting or belittling utterance intended to offend or harm an individual.  
 Normal does not contain any bad language.

Tweet: {{tweet}}

Which category does the tweet above belong to: 'Hate', 'Abuse' or 'Normal'. Pick exactly one category. Return only the label

### Listing 2: AfriHate Prompt 2

Read the following label definitions and provide a label without any explanations.  
 Hate: Hate speech is public speech that expresses hate or encourages violence towards a person or group based on something such as race, religion, gender, ethnicity, sexual orientation or other characteristics.  
 Abusive: Abusive and offensive language means verbal messages that use words in an inappropriate way and may include but is not limited to swearing, name-calling, or profanity. Offensive language may upset or embarrass people because it is rude or insulting.  
 Normal: Normal language is neither hateful nor abusive or offensive. It does not contain any bad language.

Text: {{tweet}}  
 Label:

### Listing 3: AfriHate Prompt 3

Read the following text and definitions:  
 Text: {{tweet}}.  
 Definitions:  
 Hate: Hate speech is public speech that expresses hate or encourages violence towards a person or group based on something such as race, religion, gender, ethnicity, sexual orientation or other characteristics.  
 Abuse: Abusive and offensive language means verbal messages that use words in an inappropriate way and may include but is not limited to swearing, name-calling, or profanity. Offensive language may upset or embarrass people because it is rude or insulting.



Normal: Normal language is neither hateful nor abusive or offensive. It does not contain any bad language.

Which of these definitions (hate, abuse, normal) apply to this tweet?, return only the label

#### Listing 4: AfriHate Prompt 4

Read the following definitions and text to categorize:

Definitions:

Hate: Hate speech is public speech that expresses hate or encourages violence towards a person or group based on something such as race, religion, gender, ethnicity, sexual orientation or other characteristics.

Abuse: Abusive and offensive language means verbal messages that use words in an inappropriate way and may include but is not limited to swearing, name-calling, or profanity. Offensive language may upset or embarrass people because it is rude or insulting.

Normal: Normal language is neither hateful nor abusive or offensive. It does not contain any bad language.

Text: {{tweet}}.

Which of these definitions (hate, abuse, normal) apply to this tweet? Return only the label

#### Listing 5: AfriHate Prompt 5

You will be given a text snippet and 3 category definitions.  
Your task is to choose which category applies to this text.

Your text snippet is: {{tweet}}.

Your category definitions are:

HATE category definition: Hate speech is public speech that expresses hate or encourages violence towards a person or group based on something such as race, religion, gender, ethnicity, sexual orientation or other characteristics.

ABUSE category definition: Abusive and offensive language means verbal messages that use words in an inappropriate way and may include but is not limited to swearing, name-calling, or profanity. Offensive language may upset or embarrass people because it is rude or insulting.

NORMAL category definition: Normal language is neither hateful nor abusive or offensive. It does not contain any bad language.

Does the text snippet belong to the HATE, ABUSIVE, or the NORMAL category? Thinking step by step answer HATE, ABUSIVE, or NORMAL capitalizing all the letters.

Explain your reasoning FIRST, then output HATE, ABUSIVE, or NORMAL. Clearly return the label in capital letters.

### Natural Language Inference prompts:

#### Listing 1: AfriXNLI Prompt 1

Please identify whether the premise entails or contradicts the hypothesis in the following premise and hypothesis. The answer should be exact entailment, contradiction, or neutral.

Premise: {{premise}}  
Hypothesis: {{hypothesis}}.

Is it entailment, contradiction, or neutral?

#### Listing 2: AfriXNLI Prompt 2

{{premise}}  
Question: {{hypothesis}} True, False, or Neither?  
Answer:

#### Listing 3: AfriXNLI Prompt 3

Given the following premise and hypothesis in {{language}}, identify if the premise entails, contradicts, or is neutral towards the hypothesis. Please respond with exact 'entailment', 'contradiction', or 'neutral'.

Premise: {{premise}}  
Hypothesis: {{hypothesis}}

#### Listing 4: AfriXNLI Prompt 4

You are an expert in Natural Language Inference (NLI) specializing in {{language}} language.

Analyze the premise and hypothesis given in {{language}}, and determine the relationship between them.

Respond with one of the following options: 'entailment', 'contradiction', or 'neutral'.

Premise: {{premise}}  
Hypothesis: {{hypothesis}}

#### Listing 5: AfriXNLI Prompt 5

Based on the given statement, is the following claim 'true', 'false', or 'inconclusive'.

Statement: {{premise}}  
Claim: {{hypothesis}}

## H.2 Question Answering

### CrosslingualQA prompts:

#### Listing 1: AfriQA Prompt 1

Your task is to answer a question given a context. Make sure you respond with the shortest span containing the answer in the context.

Question: {{question\_lang}}  
Context: {{context}}  
Answer:

#### Listing 2: AfriQA Prompt 2

Your task is to answer a question given a context. The question is in {{language}}, while the context is in English or French. Make sure you respond with the shortest span in the context that contains the answer.

Question: {{question\_lang}}  
Context: {{context}}  
Answer:

#### Listing 3: AfriQA Prompt 3

Given the context, provide the answer to the following question. Ensure your response is concise and directly from the context.

Question: {{question\_lang}}  
Context: {{context}}  
Answer:

#### Listing 4: AfriQA Prompt 4

You are an AI assistant and your task is to answer the question based on the provided context. Your answer should be the shortest span that contains the answer within the context.  
Question: {{question\_lang}}  
Context: {{context}}  
Answer:

#### Listing 6: NaijaRC Prompt 1

P: {{story}}  
Q: {{question}}  
A: {{options\_A}}  
B: {{options\_B}}  
C: {{options\_C}}  
D: {{options\_D}}  
Please choose the correct answer from the options above

#### Listing 5: AfriQA Prompt 5

Using the context, find the answer to the question. Respond with the briefest span that includes the answer from the context.  
Question: {{question\_lang}}  
Context: {{context}}  
Answer:

#### Listing 7: NaijaRC Prompt 2

Passage: {{story}}  
Question: {{question}}  
1: {{options\_A}}  
2: {{options\_B}}  
3: {{options\_C}}  
4: {{options\_D}}  
Please select the correct answer from the given choices

### Reading Comprehension prompts:

#### Listing 1: Belebele Prompt 1

P: {{passage}}  
Q: {{question}}  
A: {{option\_1}}  
B: {{option\_2}}  
C: {{option\_3}}  
D: {{option\_4}}  
Please choose the correct answer from the options above:

#### Listing 8: NaijaRC Prompt 3

Context: {{story}}  
Query: {{question}}  
Option A: {{options\_A}}  
Option B: {{options\_B}}  
Option C: {{options\_C}}  
Option D: {{options\_D}}  
Please indicate the correct option from the list above

#### Listing 2: Belebele Prompt 2

Passage: {{passage}}  
Question: {{question}}  
1: {{option\_1}}  
2: {{option\_2}}  
3: {{option\_3}}  
4: {{option\_4}}  
Please select the correct answer from the given choices

#### Listing 9: NaijaRC Prompt 4

{{story}}  
Based on the above passage, answer the following question  
{{question}}  
Choices:  
A) {{options\_A}}  
B) {{options\_B}}  
C) {{options\_C}}  
D) {{options\_D}}  
Please provide the correct answer from the choices given

#### Listing 3: Belebele Prompt 3

Context: {{passage}}  
Query: {{question}}  
Option A: {{option\_1}}  
Option B: {{option\_2}}  
Option C: {{option\_3}}  
Option D: {{option\_4}}  
Please indicate the correct option from the list above:

#### Listing 10: NaijaRC Prompt 5

Read the passage: {{story}}  
Then answer the question: {{question}}  
Options:  
A. {{options\_A}}  
B. {{options\_B}}  
C. {{options\_C}}  
D. {{options\_D}}  
Please choose the correct option from the above list

#### Listing 4: Belebele Prompt 4

{{passage}}  
Based on the above passage, answer the following question:  
{{question}}  
Choices:  
A) {{option\_1}}  
B) {{option\_2}}  
C) {{option\_3}}  
D) {{option\_4}}  
Please provide the correct answer from the choices given

## H.3 Knowledge

### Arc-E prompts:

#### Listing 1: UHURA Prompt 1

You are a virtual assistant that answers multiple-choice questions with the correct option only.

Question: {{question}}

Choices:  
A. {{options\_A}}  
B. {{options\_B}}  
C. {{options\_C}}  
D. {{options\_D}}  
Answer:

#### Listing 2: UHURA Prompt 2

Choose the correct option that answers the question below:

#### Listing 5: Belebele Prompt 5

Read the passage: {{passage}}  
Then answer the question: {{question}}  
Options:  
A. {{option\_1}}  
B. {{option\_2}}  
C. {{option\_3}}  
D. {{option\_4}}  
Please choose the correct option from the above list

Question: {{question}}  
Choices:  
A. {{options\_A}}  
B. {{options\_B}}  
C. {{options\_C}}  
D. {{options\_D}}  
Answer: .

### Listing 3: UHURA Prompt 3

Answer the following multiple-choice question by picking 'A', 'B', 'C', or 'D'  
Question: {{question}}  
Options:  
A. {{options\_A}}  
B. {{options\_B}}  
C. {{options\_C}}  
D. {{options\_D}}  
Answer:

### Listing 4: UHURA Prompt 4

Question: {{question}}  
Options:  
A. {{options\_A}}  
B. {{options\_B}}  
C. {{options\_C}}  
D. {{options\_D}}  
Answer:

### Listing 5: UHURA Prompt 5

Which of the following options answers this question : {{question}}  
Options:  
A. {{options\_A}}  
B. {{options\_B}}  
C. {{options\_C}}  
D. {{options\_D}}  
Answer:

## MMLU prompts:

### Listing 1: OpenAIMMLU Prompt 1

Q: {{Question}}  
A: {{A}}  
B: {{B}}  
C: {{C}}  
D: {{D}}  
Please choose the correct answer from the options above

### Listing 2: OpenAIMMLU Prompt 2

Question: {{Question}}  
1: {{A}}  
2: {{B}}  
3: {{C}}  
4: {{D}}  
Please select the correct answer from the given choices

### Listing 3: OpenAIMMLU Prompt 3

Input Question: {{Question}}  
Option A: {{A}}  
Option B: {{B}}  
Option C: {{C}}  
Option D: {{D}}  
Please indicate the correct option from the list above

### Listing 4: OpenAIMMLU Prompt 4

Critically analyze the question and select the most probable answer from the list:  
{{Question}}  
Choices:  
A) {{A}}  
B) {{B}}  
C) {{C}}  
D) {{D}}

### Listing 5: OpenAIMMLU Prompt 5

Answer the question and pick the correct answer from the options:  
{{Question}}  
Options:  
A. {{A}}  
B. {{B}}  
C. {{C}}  
D. {{D}}  
Please choose the correct option from the above list

### Listing 6: AfriMMLU Prompt 1

You are a highly knowledgeable and intelligent artificial intelligence model answers multiple-choice questions about {{subject}}.  
Question: {{question}}  
Choices:  
A: {{options\_A}}  
B: {{options\_B}}  
C: {{options\_C}}  
D: {{options\_D}}  
Answer:

### Listing 7: AfriMMLU Prompt 2

As an expert in {{subject}}, choose the most accurate answer to the question below. Your goal is to select the correct option 'A', 'B', 'C', or 'D' by understanding the nuances of the topic.  
Question: {{question}}  
Choices:  
A: {{options\_A}}  
B: {{options\_B}}  
C: {{options\_C}}  
D: {{options\_D}}  
Answer:

### Listing 8: AfriMMLU Prompt 3

You are a subject matter expert in {{subject}}. Utilizing your expertise in {{subject}}, answer the following multiple-choice question by picking 'A', 'B', 'C', or 'D'.  
Question: {{question}}  
Choices:  
A: {{options\_A}}  
B: {{options\_B}}  
C: {{options\_C}}  
D: {{options\_D}}  
Answer:

### Listing 9: AfriMMLU Prompt 4

Analyze each question critically and determine the most correct option based on your understanding of the subject matter  
Question: {{question}}  
Choices:  
A: {{options\_A}}  
B: {{options\_B}}  
C: {{options\_C}}  
D: {{options\_D}}  
Answer:

#### Listing 10: AfriMMLU Prompt 5

Given your proficiency in {{subject}}, please answer the subsequent multiple-choice question  
Question: {{question}}  
Choices:  
A: {{options\_A}}  
B: {{options\_B}}  
C: {{options\_C}}  
D: {{options\_D}}  
Answer:

### H.4 Reasoning

#### Math prompts: from IROKOBENCH (Adelani et al., 2024b)

##### Listing 1: AfriMGSM Prompt 1

{{question}}  
Step-by-step Answer:

##### Listing 2: AfriMGSM Prompt 2

Give direct numerical answers for the question provided.

Question: {{question}}  
Step-by-step Answer:

##### Listing 3: AfriMGSM Prompt 3

Solve the following math question

Question: {{question}}  
Step-by-step Answer:

##### Listing 4: AfriMGSM Prompt 4

Answer the given question with the appropriate numerical value, ensuring that the response is clear and without any supplementary information .

Question: {{question}}  
Step-by-step Answer:

##### Listing 5: AfriMGSM Prompt 5

For mathematical questions provided in {{language}} language. Supply the accurate numeric step by step answer to the provided question.

Question: {{question}}  
Step-by-step Answer:

### H.5 Text Generation

#### Machine Translation prompts

##### Listing 1: Machine Translation Prompt 1

{{source\_lang}} sentence: {{source\_text}}  
{{target\_lang}} sentence:

##### Listing 2: Machine Translation Prompt 2

You are a translation expert. Translate the following {{source\_lang}} sentences to {{target\_lang}}

{{source\_lang}} sentence: {{source\_text}}  
{{target\_lang}} sentence:

#### Listing 3: Machine Translation Prompt 3

As a {{source\_lang}} and {{target\_lang}} linguist, translate the following {{source\_lang}} sentences to {{target\_lang}}.

{{source\_lang}} sentence: {{source\_text}}  
{{target\_lang}} sentence:

#### Summarization prompts

##### Listing 1: XL-SUM Prompt 1

Provide a summary of the document written in {{language}}. Ensure that you provide the summary in {{language}} and nothing else.

Document in {{language}}: {{text}}

Summary:

##### Listing 2: XL-SUM Prompt 2

Summarize the document below in triple backticks and return only the summary and nothing else.

{{text}}

##### Listing 3: XL-SUM Prompt 3

You are an advanced Summarizer, a specialized assistant designed to summarize documents in {{language}}. Your main goal is to ensure summaries are concise and informative. Ensure you return the summary only and nothing else.

Document: {{text}}

Summary:

#### Diacritics Restoration prompts

##### Listing 1: AFRIADR Prompt 1

Please restore the missing diacritics in the following sentence: {{text}}.  
Return output sentence only

##### Listing 2: AFRIADR Prompt 2

Given a sentence without diacritics, add the appropriate diacritics to make it grammatically and semantically correct.  
Sentence: {{text}}.  
Return output sentence only

##### Listing 3: AFRIADR Prompt 3

This text is in {{language}}. Restore all diacritical marks to their proper places in the following sentence: {{text}}. Return output sentence only

##### Listing 4: AFRIADR Prompt 4

You are a linguist specializing in diacritical marks for {{language}}. Add the appropriate diacritics to this {{language}} sentence: {{text}}. Return output sentence only

##### Listing 5: AFRIADR Prompt 5

You are a linguist specializing in diacritical marks for {{language}}. Diacritics are essential for proper pronunciation and meaning in {{language}}. You are tasked with converting {{language}} sentences without diacritics into their correctly accented forms. Here's the input: {{text}}. Return output sentence only

## I Detailed Results Per Language

This appendix presents detailed per-language performance results for each dataset. We group them by the task category shown in Figure 2. Each figure shows model performance using the best prompt for each model–dataset pairs.

### I.1 Natural Language Understanding (NLU)

#### I.1.1 POS

##### MasakhaPOS

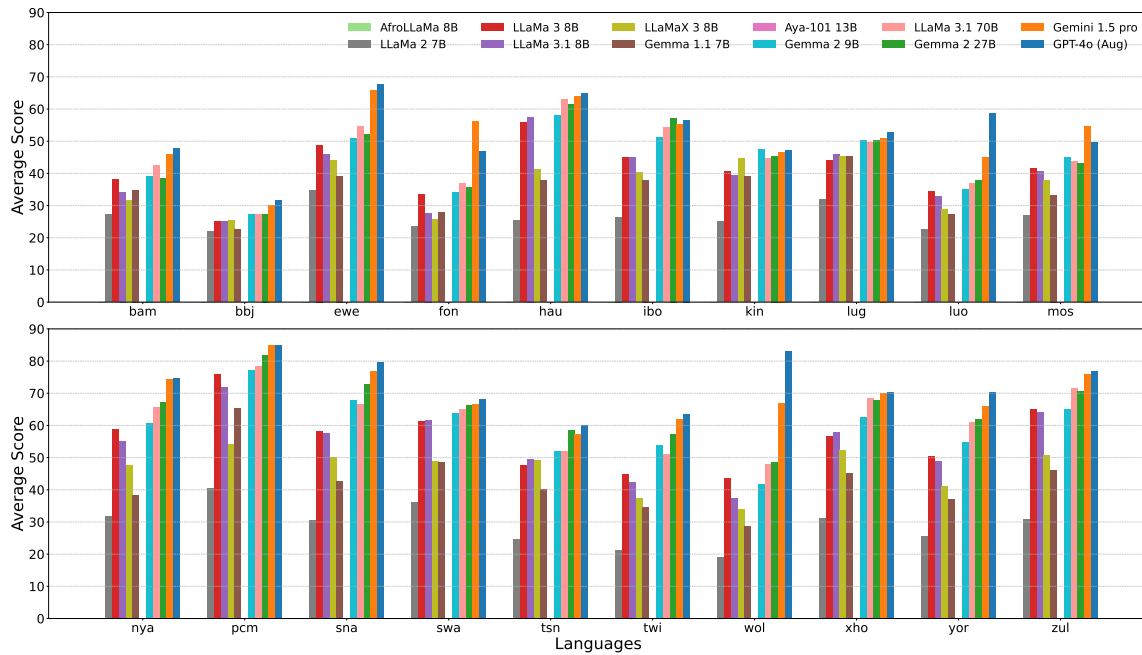


Figure 6: Per-language performance results for the MasakhaPOS dataset.

#### I.1.2 NER

##### MasakhaNER

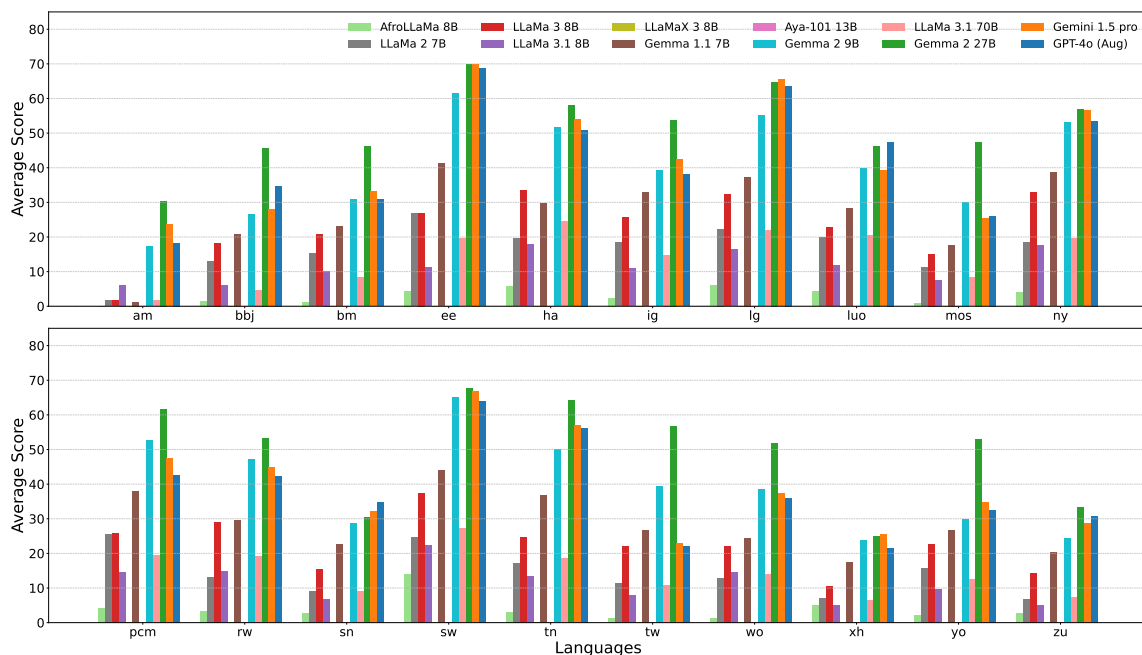


Figure 7: Per-language performance results for the MasakhaNER dataset.

### I.1.3 Sentiment Analysis

#### AfriSenti

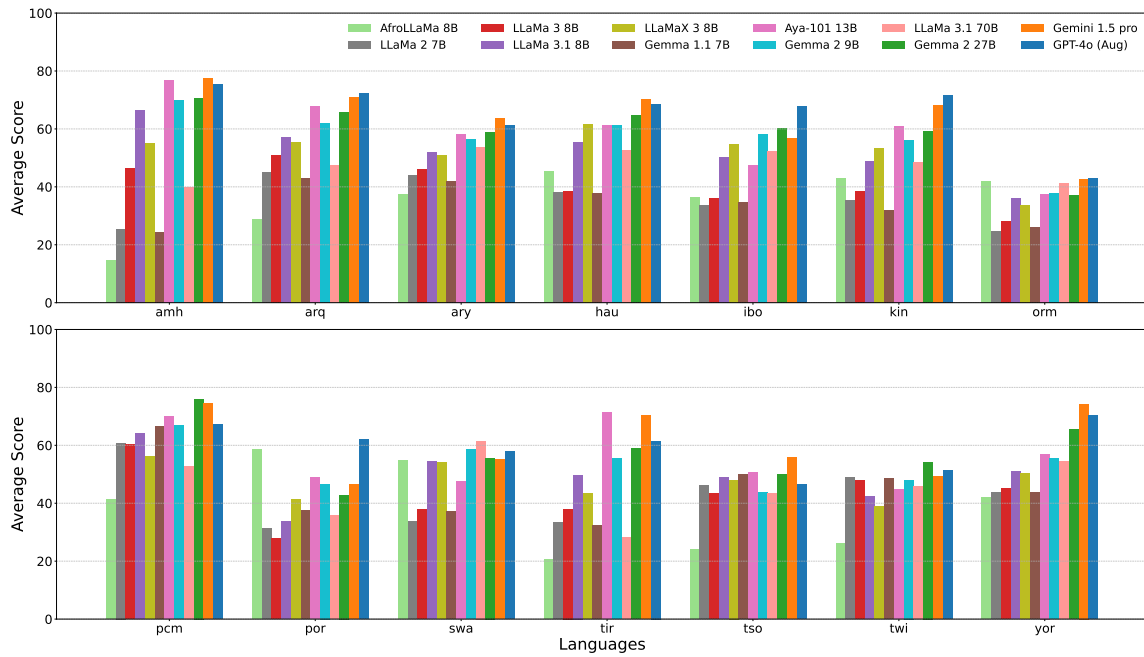


Figure 8: Per-language performance results for the AfriSenti dataset.

#### NollySenti

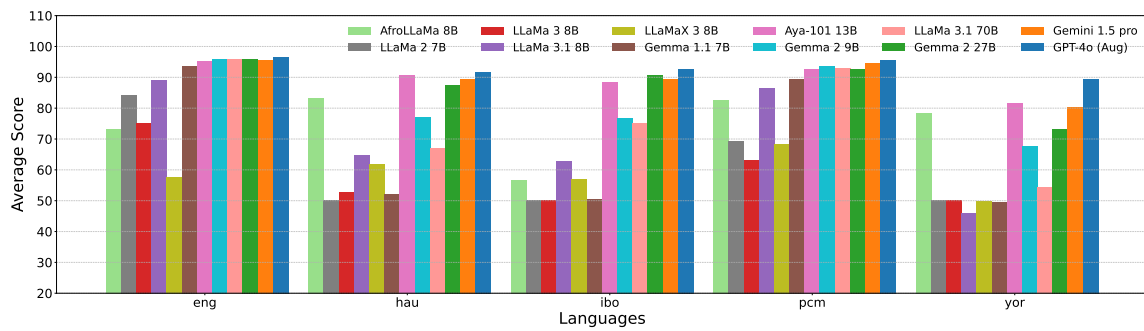


Figure 9: Per-language performance results for the NollySenti dataset.



## I.1.4 Intent Detection

### Injongo Intent

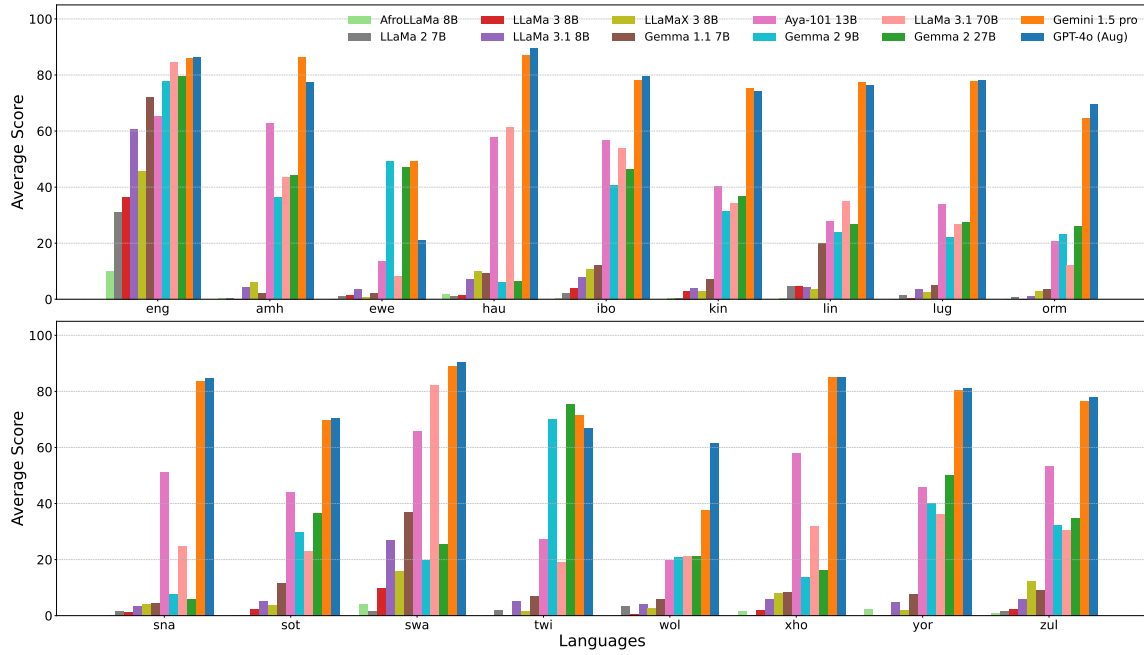


Figure 10: Per-language performance results for the InjongoIntent dataset.

## I.1.5 Topic Classification

### MasakhaNEWS

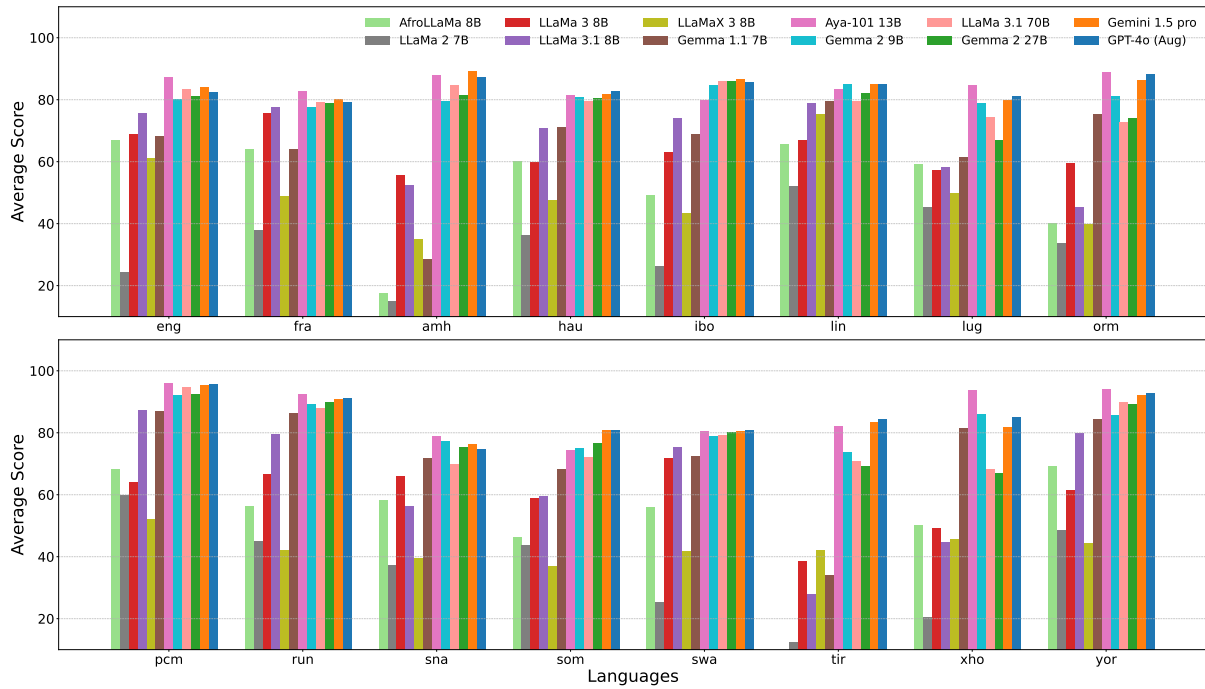


Figure 11: Per-language performance results for the MasakhaNEWS dataset.

# SIB

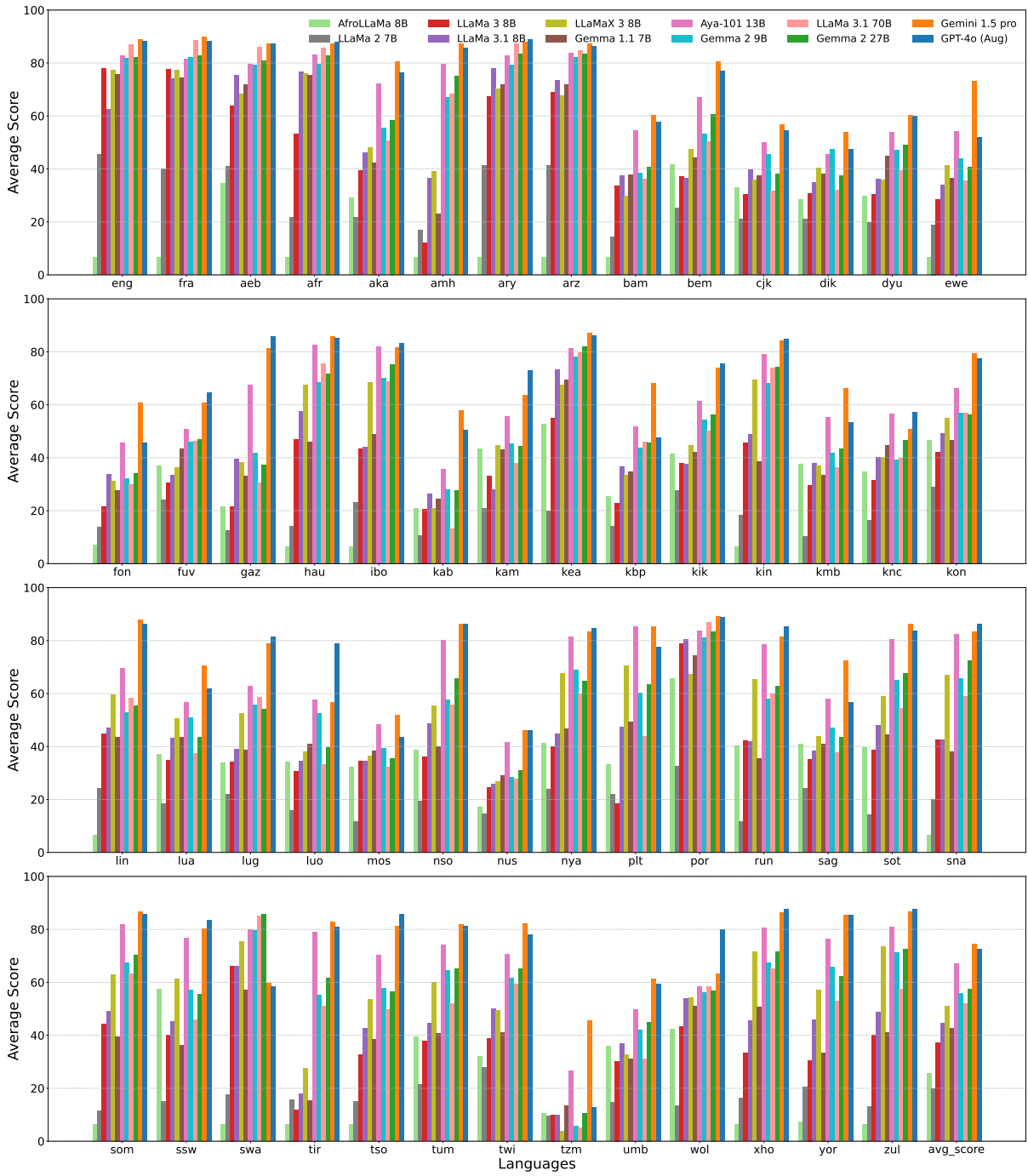


Figure 12: Per-language performance results for the SIB dataset.

## I.1.6 Hate Speech:

### AfriHate

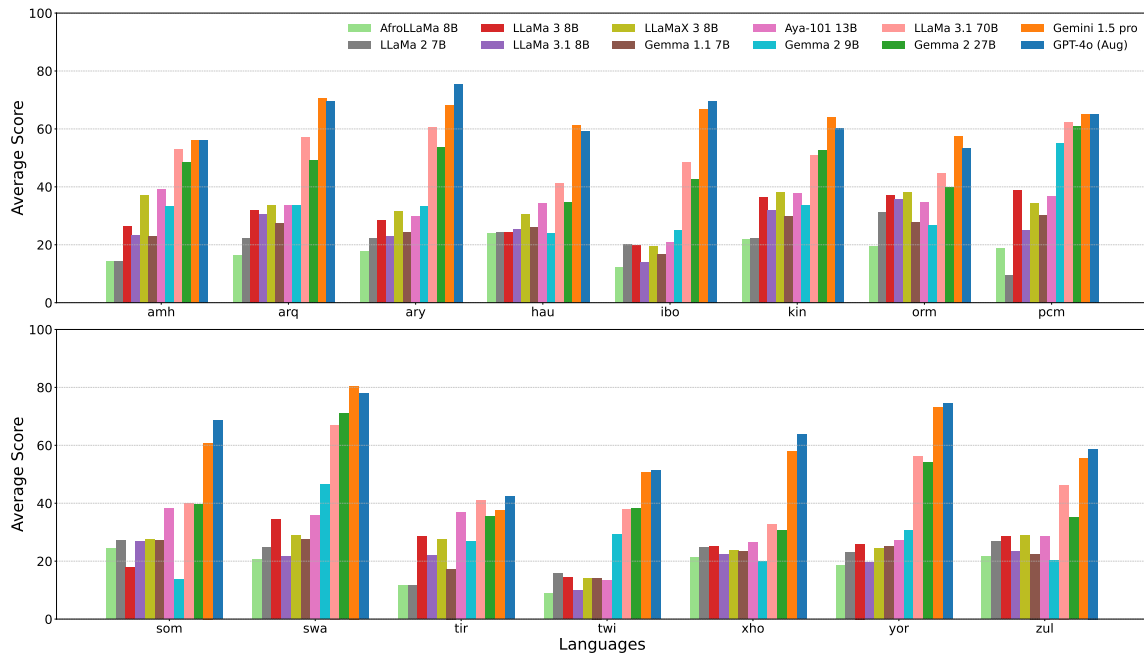


Figure 13: Per-language performance results for the AfriHate dataset.

## I.2 Natural Language Inference

### AfriXNLI

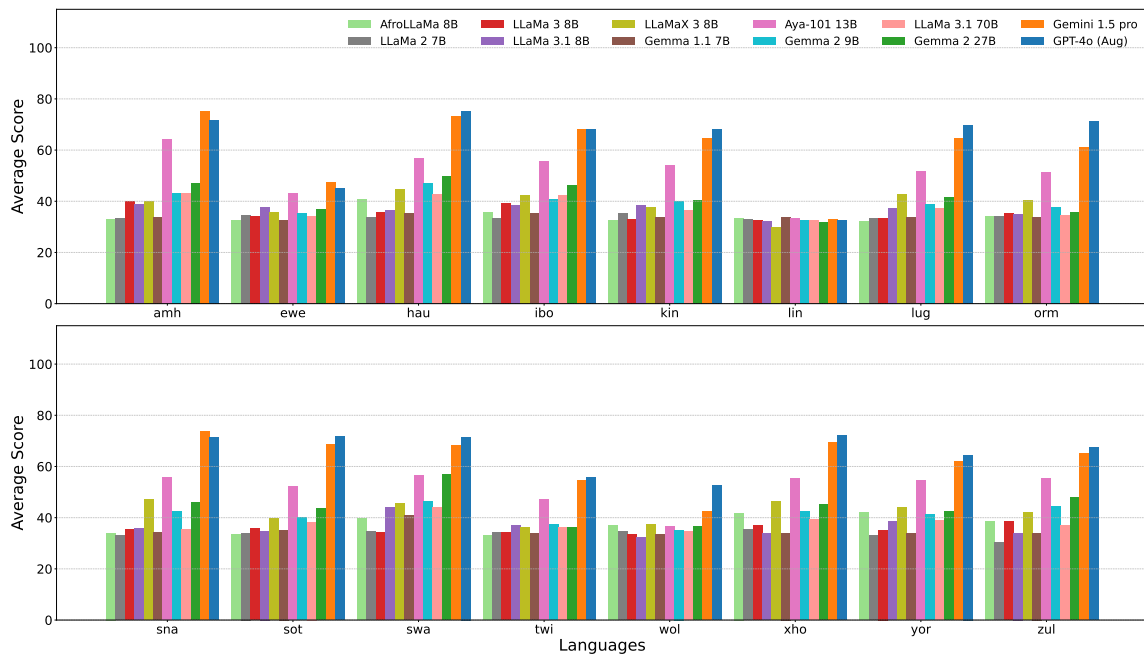


Figure 14: Per-language performance results for the AFRIXNLI dataset.

### I.3 Question Answering

#### I.3.1 Cross-lingual Question Answering

##### AfriQA

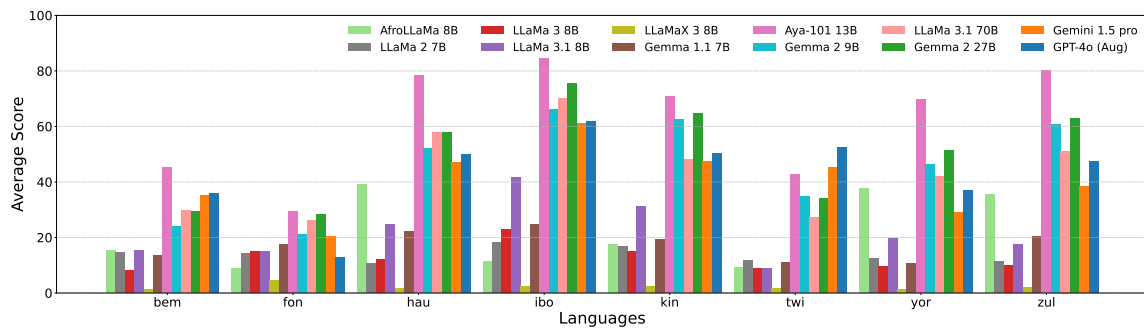


Figure 15: Per-language performance results for the AfriQA dataset.

#### I.3.2 Reading Comprehension

##### Belebele

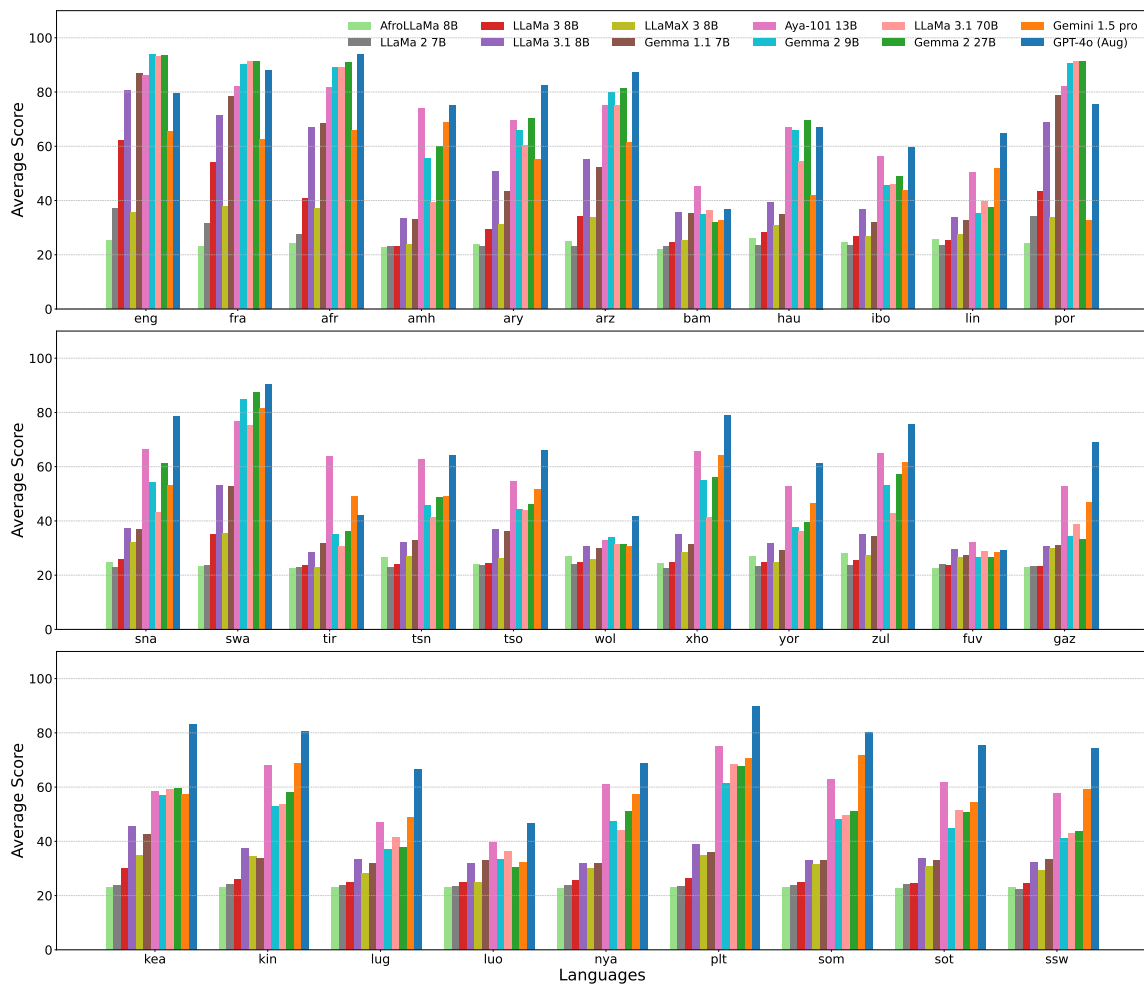


Figure 16: Per-language performance results for the BELEBELE dataset.

## NaijaRC

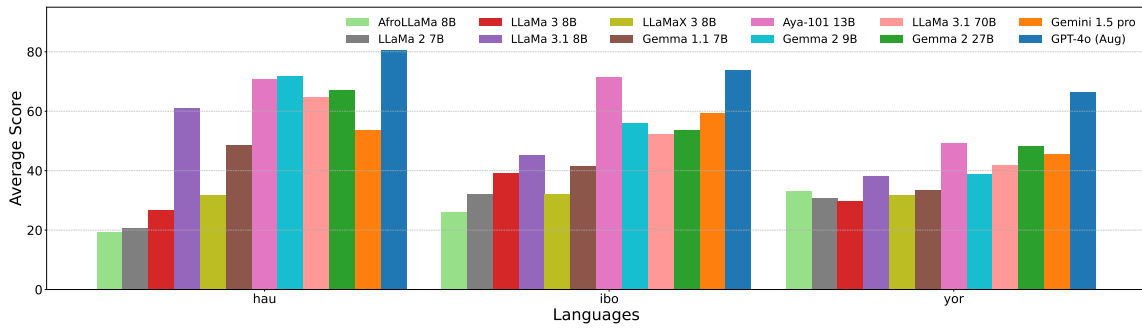


Figure 17: Per-language performance results for the NAIJARC dataset.

## I.4 Knowledge

### I.4.1 Arc-E

#### UHURA

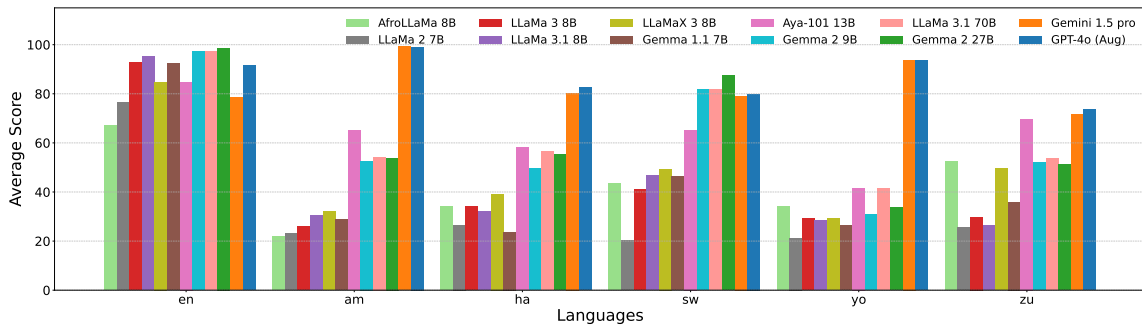


Figure 18: Per-language performance results for the UHURA dataset.

### I.4.2 MMLU

#### OpenAIMMLU

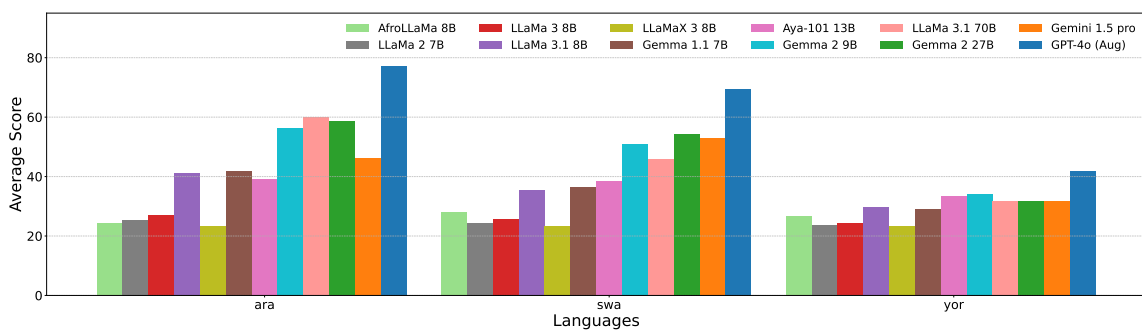


Figure 19: Per-language performance results for the OPENAI-MMLU dataset.



## AfriMMLU

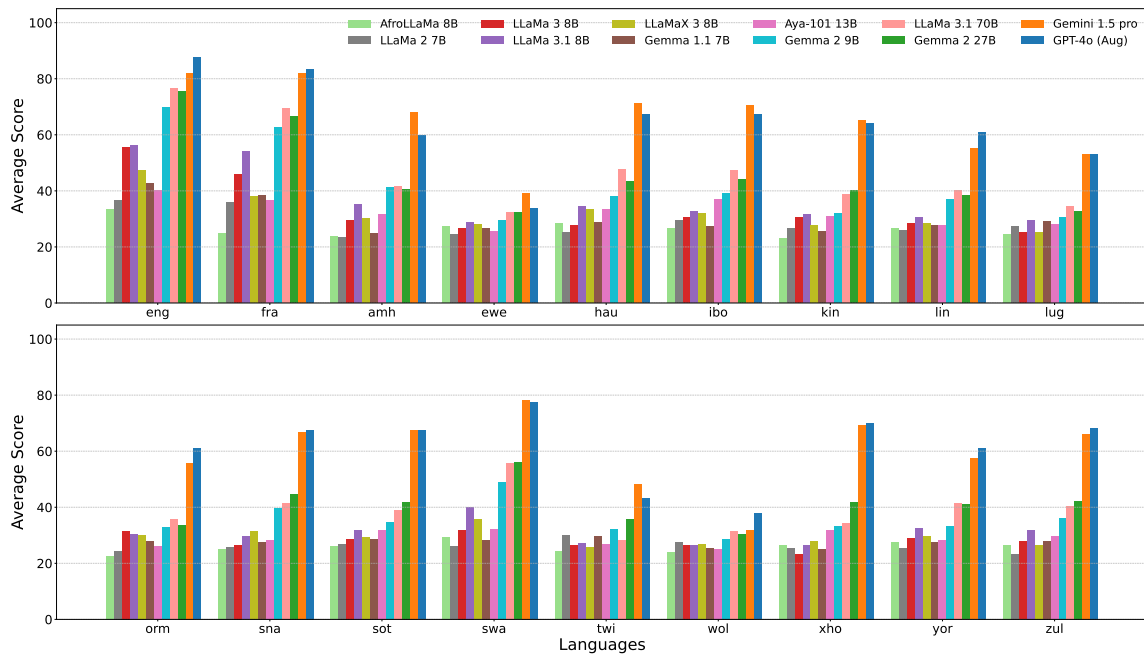


Figure 20: Per-language performance results for the AFRIMMLU dataset.

## 1.5 Reasoning

### AfriMGSM

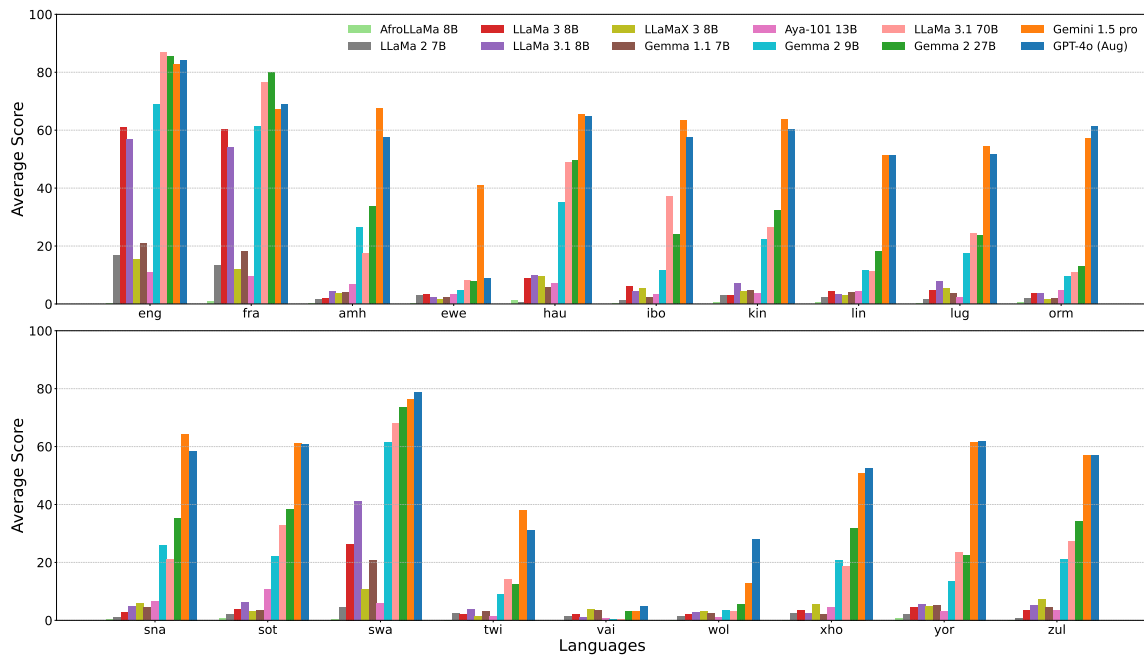


Figure 21: Per-language performance results for the AFRIMGSM dataset.

## I.6 Text Generation

### I.6.1 Machine Translation

#### SALT (*en/fr-xx*)

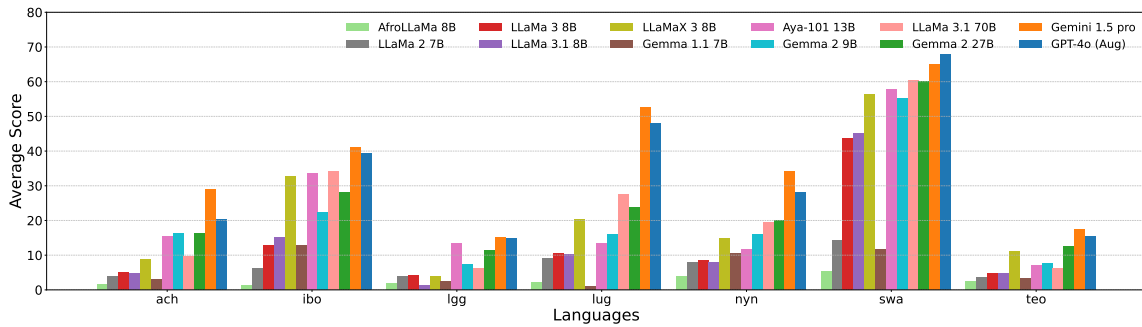


Figure 22: Per-language performance results for the SALT dataset (*en/fr-xx*).

#### SALT (*xx-en/fr*)

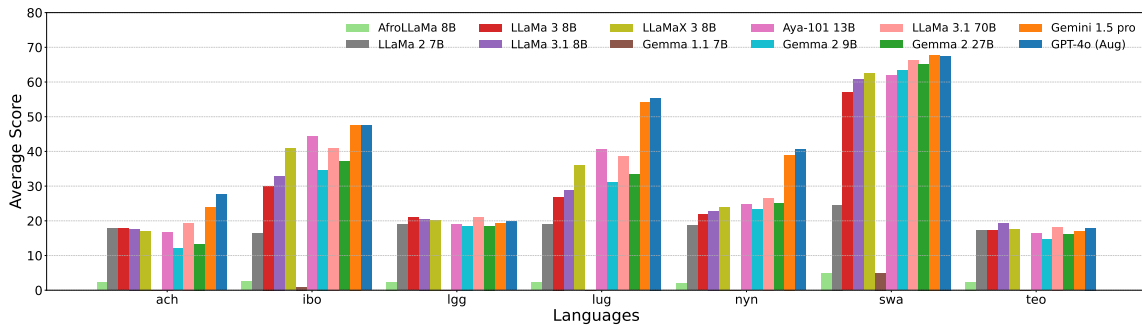


Figure 23: Per-language performance results for the SALT dataset (*xx-en/fr*).

#### MAFAND (*en-xx/fr*)

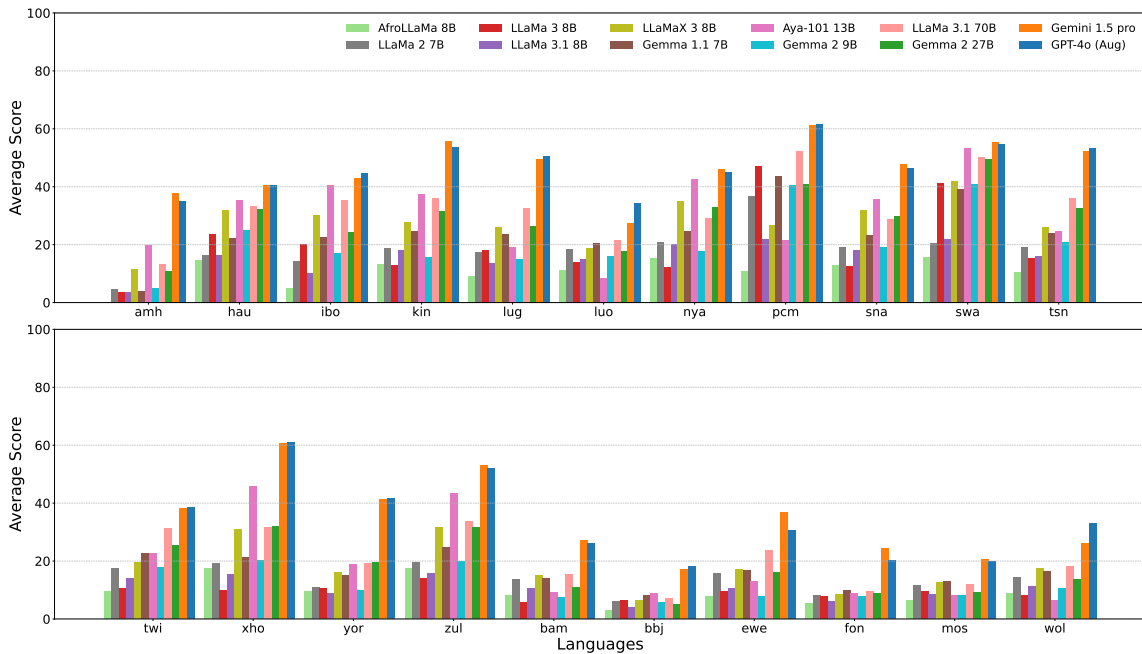


Figure 24: Per-language performance results for the MAFAND dataset.

**MAFAND (*xx-en/fr*)**

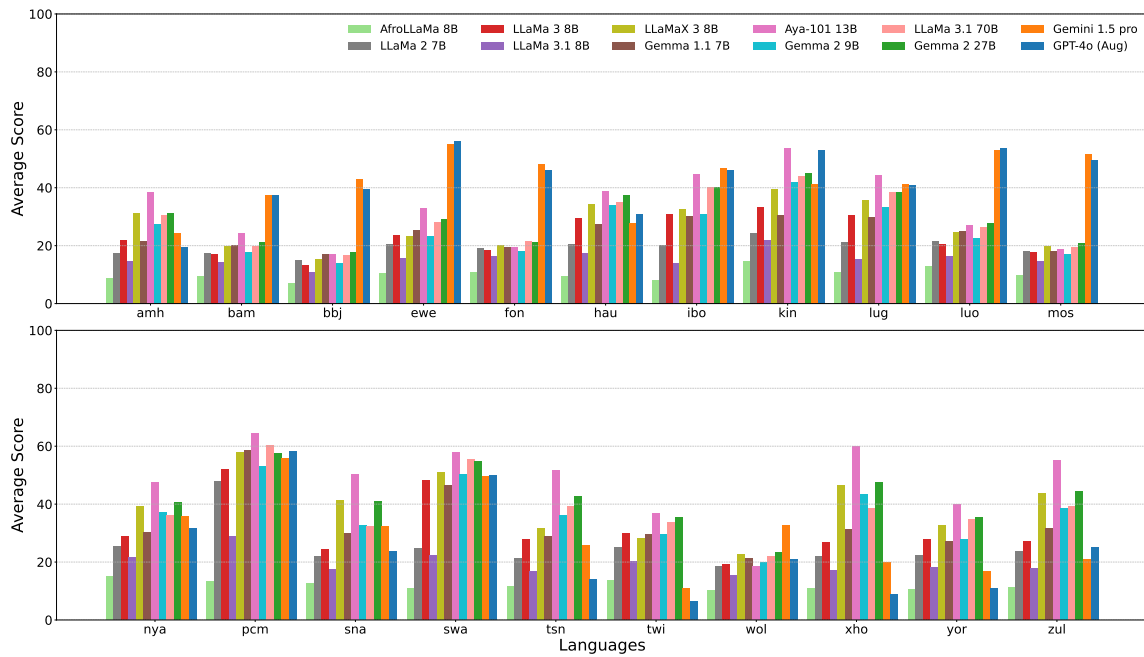


Figure 25: Per-language performance results for the MAFAND dataset.

**NTREX (*en/fr-xx*)**

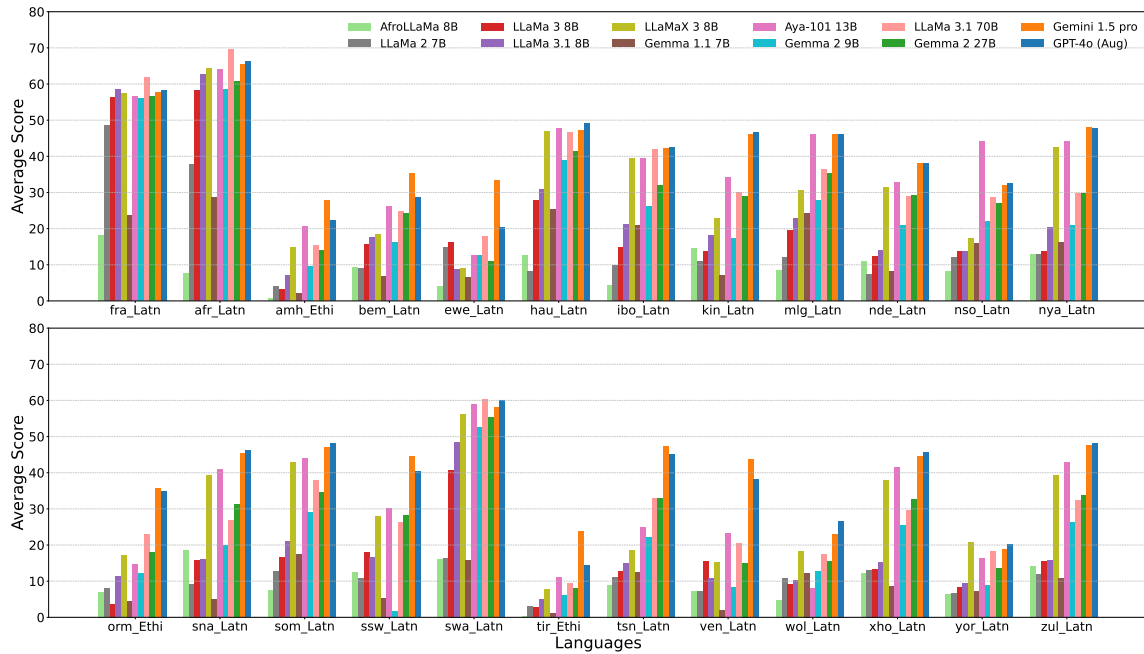


Figure 26: Per-language performance results for the NTREX-128 dataset (*en/fr-xx*).

## NTREX (*xx-en/fr*)

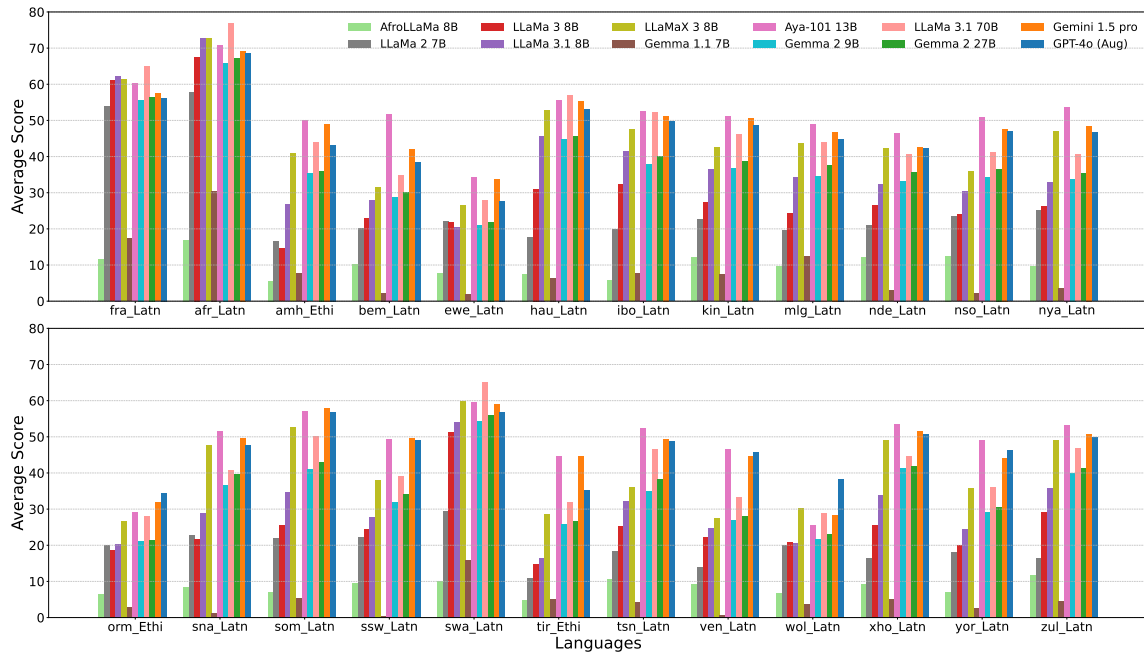


Figure 27: Per-language performance results for the NTREX-128 dataset (*xx-en/fr*).

### Flores (African Languages only and French) (*en/fr-xx*)



Figure 28: Per-language performance results for the FLORES dataset (*en/fr-xx*).



### Flores (African Languages only and French) (*xx-en/fr*)

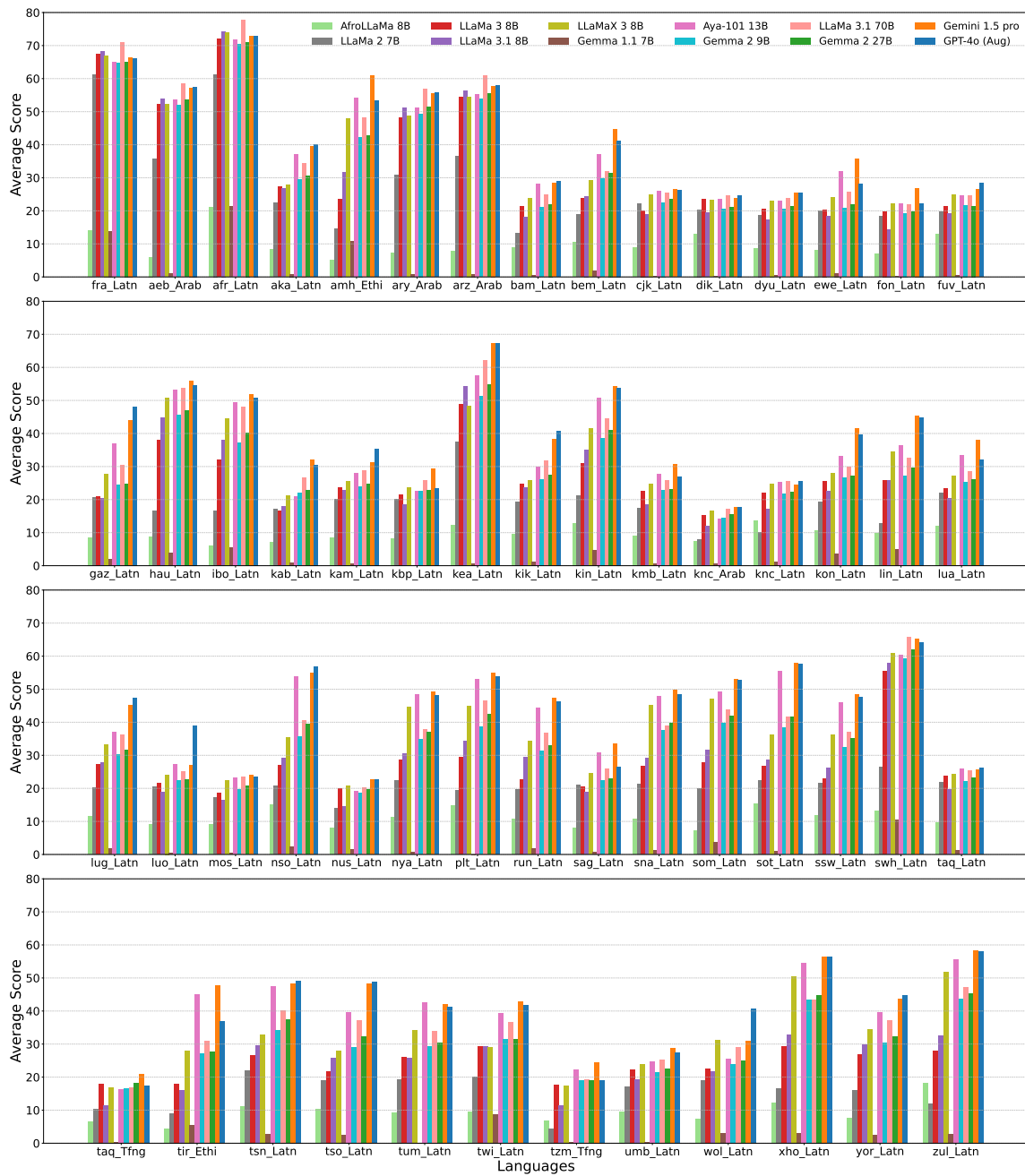


Figure 29: Per-language performance results for the FLORES dataset (*xx-en/fr*).

## I.6.2 Summarization

### XL-SUM

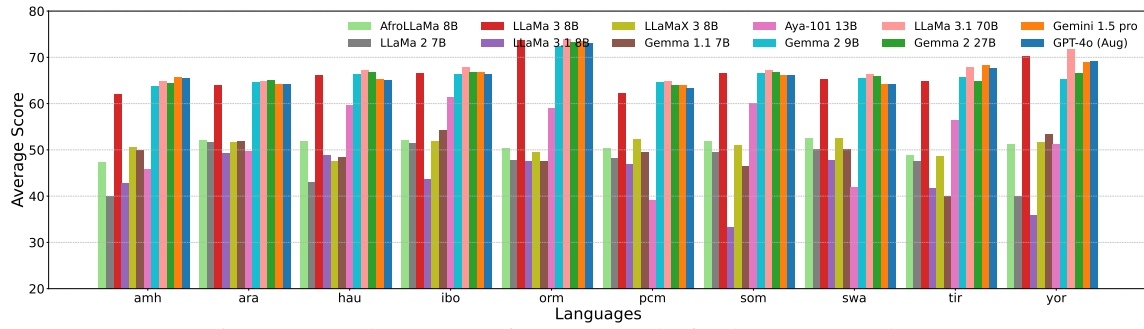


Figure 30: Per-language performance results for the XL-SUM dataset.

## I.6.3 Diacritics Restoration

### AFRIADR

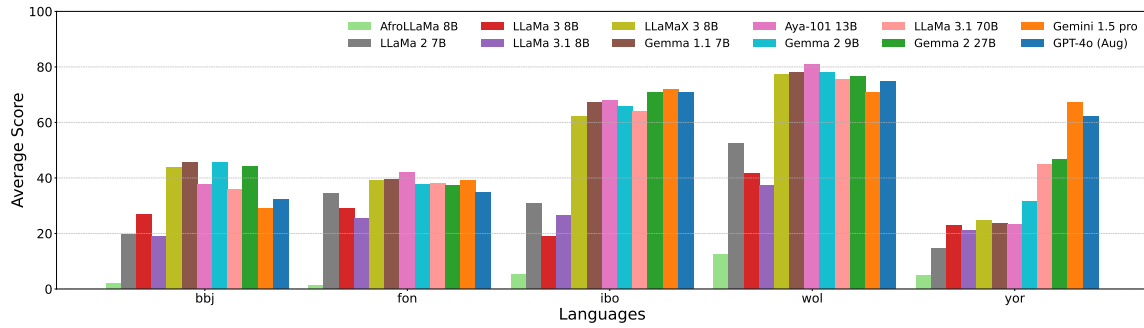


Figure 31: Per-language performance results for the AFRIADR dataset.