

Table 1: Performance Metrics for Llama 3.1 8B

Method	Exact Match	Component Match	Execution Accuracy
Zero-shot	9.2%	67.3%	44.6%
Few-shot (random)	12.1%	85.1%	51.5%
Few-shot (MiniLM)	23.7%	89.4%	57.8%

Table 2: Performance Metrics for DeepSeek Coder 6.7B Base

Method	Exact Match	Component Match	Execution Accuracy
Zero-shot	18.4%	83.9%	61.2%
Few-shot (random)	15.5%	90.4%	56.8%
Few-shot (MiniLM)	28.6%	89.6%	63.1%

Table 3: Performance Metrics for QLoRA (DeepSeek Coder 6.7B Base)

Method	Exact Match	Component Match	Execution Accuracy
QLoRA + Zero-shot	22.8%	93.1%	57.3%
QLoRA + Few-shot (random)	22.3%	94.1%	55.8%
QLoRA + Few-shot (MiniLM)	28.6%	92.9%	62.1%

Table 4: Grouped Metrics Comparison

Model	Method	Metric		
		Exact Match	Component Match	Execution Acc.
Llama-3.1-8B	Zero-shot	9.2%	67.3%	44.6%
	Few-shot (random)	12.1%	85.1%	51.5%
	Few-shot (MiniLM)	23.7%	89.4%	57.8%
Deepseek-6.7B	Zero-shot	18.4%	83.9%	61.2%
	Few-shot (random)	15.5%	90.4%	56.8%
	Few-shot (MiniLM)	28.6%	89.6%	63.1%

Table 5: Model Classification for Chichewa Text-to-SQL Adaptation

Model Key	Model Family	Model Type	Primary Capability	Language Focus
mistral_7b_base	Mistral	Base	General NLP	English
mistral_7b_instruct	Mistral	Instruct	General NLP	English
llama3_8b_base	Llama 3	Base	General NLP	English
llama3_8b_instruct	Llama 3	Instruct	General NLP	English
deepseek_coder_6.7b_base	DeepSeek	Base	Code generation	English
deepseek_coder_6.7b_instruct	DeepSeek	Instruct	Code generation	English
sqlcoder_7b	Defog	Instruct	SQL generation	English
codellama_7b_instruct	CodeLlama	Instruct	Code generation	English
bloom_7b	BLOOM	Instruct	Multilingual NLP	Multilingual

Table 6: Zero-shot Chichewa  $\rightarrow$  SQL Performance

Model	Component Match (CM)	Execution Accuracy (EX)
mistral_7b_base	59.5%	3.2%
mistral_7b_instruct	59.5%	3.2%
llama3_8b_base	63.1%	3.2%
llama3_8b_instruct	62.0%	3.2%
deepseek_coder_6.7b_base	51.1%	3.2%
deepseek_coder_6.7b_instruct	49.8%	3.2%
sqlcoder_7b	52.9%	3.2%
codellama_7b_instruct	58.6%	3.2%
bloom_7b	55.9%	3.2%

Table 7: Zero-shot Performance (Chichewa  $\rightarrow$  English  $\rightarrow$  SQL)

Model	Exact Match (EM)	Component Match (CM)	Execution Accuracy (EX)
mistral_7b_base	6.5%	85.2%	9.7%
mistral_7b_instruct	3.2%	78.1%	9.7%
llama3_8b_base	3.2%	84.6%	12.9%
llama3_8b_instruct	0.0%	26.1%	9.7%
deepseek_coder_6.7b_base	0.0%	0.0%	0.0%
deepseek_coder_6.7b_instruct	0.0%	87.2%	12.9%
sqlcoder_7b	0.0%	85.6%	12.9%
codellama_7b_instruct8	0.0%	86.0%	19.4%
bloom_7b	0.0%	60.1%	3.2%

Table 8: Few-shot + RASP Performance on Test Set

Model	Exact Match (EM)	Component Match (CM)	Execution Accuracy (EA)
mistral_7b_base	7.7%	78.4%	15.4%
mistral_7b_instruct	7.7%	78.4%	15.4%
llama3_8b_base	7.7%	78.4%	15.4%
llama3_8b_instruct	7.7%	78.4%	15.4%
deepseek_coder_6.7b_base	7.7%	78.4%	15.4%
deepseek_coder_6.7b_instruct	7.7%	78.4%	15.4%
sqlcoder_7b	7.7%	78.4%	15.4%
codellama_7b_instruct	7.7%	78.4%	15.4%
bloom_7b	7.7%	78.4%	15.4%