

**READY TO SHAPE THE FUTURE?**  
Innovating today, unlocking tomorrow, Kenya's future secured

# AI HACKATHON

AI FOR NATIONAL PROSPERITY, LEVERAGING INNOVATIONS FOR SUSTAINABLE  
DEVELOPMENT AND SECURITY

## FINAL WINNERS

### 1<sup>ST</sup> RUNNERS UP

TEAM PRIZE  
KSHS. 1,500,000  
OR  
INDIVIDUAL PRIZE  
KSHS. 750,000

### 1<sup>ST</sup> PRIZE

TEAM PRIZE  
KSHS. 2,000,000  
OR  
INDIVIDUAL PRIZE  
KSHS. 1,000,000

### 2<sup>ND</sup> RUNNERS UP

TEAM PRIZE  
KSHS. 1,000,000  
OR  
INDIVIDUAL PRIZE  
KSHS. 500,000

BEST IN EACH SUBTHEME  
KSHS. 300,000  
PER SUBTHEME

SPECIAL CATEGORIES  
KSHS. 400,000  
PER CATEGORY

## CHALLENGE TRACKS

CYBER SECURITY & DATA PROTECTION | SECURITY, SAFETY & POLICY

SUSTAINABLE DEVELOPMENT & ECONOMIC INNOVATION | GOVERNANCE, PUBLIC POLICY &

POLITICAL STABILITY | HOMEGROWN GENERATIVE AI



BROUGHT TO YOU BY  
THE NATIONAL INTELLIGENCE AND RESEARCH UNIVERSITY

TrnC's Apply

REGISTER



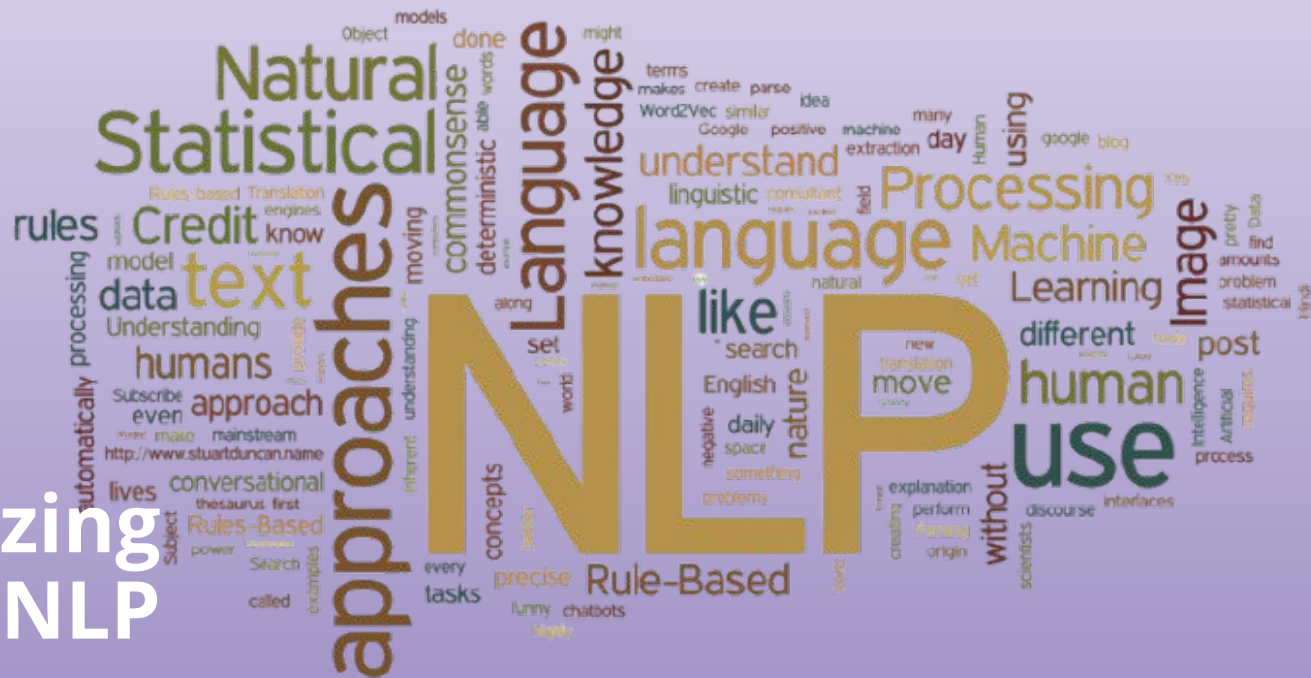
NOW

<https://aishackathon.niru.ac.ke/>

REGISTRATION DEADLINE  
28<sup>TH</sup> NOV



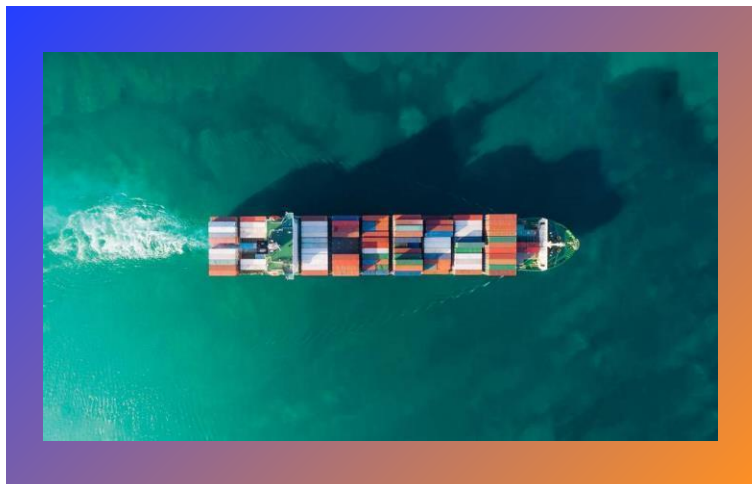
# Rogendo





# Agenda

- NLP framework
- Open Source
- Sustainable Development
- NLP Community





# Problem Statement

While Silicon Valley builds billion-parameter models, Kenyan businesses **struggle with basic NLP**;

accustomed by **Limited** Data, **Unaffordable** Computational resource and skills costs.



# Kenya's national AI priorities

# Sustainable Development

## Goals

- Sustainable Development & Economic Innovation → Democratizing NLP = economic empowerment
- Governance & Public Policy → Multi-task models for government document processing
- Homegrown Generative AI → African-context aware language models
- Cyber Security → Multi-task threat detection and classification

## Priorities

- "National Prosperity" → Reduces AI costs 60-80%
- "Leveraging Innovations" → Pre-trained models & Cutting-edge attention fusion techniques
- "Security" → Multi-threat detection capabilities



# NLP tasks

Base Models	Classification	Quality Assurance	Question Answering	Summarization	Translation	NER	Sentiment Analysis
DistilBERT	✓ Excellent	✓ Good	✓ Good	Extractive Only	✗ Limited	✓ Good	✓ Excellent
BERT	✓ Excellent	✓ Good	✓ Excellent	Extractive Only	✗ Limited	✓ Excellent	✓ Excellent
RoBERTa	✓ Excellent	✓ Good	✓ Excellent	Extractive Only	✗ Limited	✓ Excellent	✓ Excellent
MT-Transformer	✓ Excellent	✗ Limited	✓ Good	✓ Abstractive	✓ Excellent	✓ Good	✓ Good
XLM-RoBERTa	✓ Excellent	✓ Good	✓ Excellent	✓ Abstractive	✓ Excellent	✓ Excellent	✓ Excellent
African BERT	✓ Excellent	✓ Good	✓ Good	Extractive Only	✓ African Langs	✓ Excellent	✓ Excellent
BART	✓ Good	✓ Good	✓ Good	✓ Excellent	✓ Good	✗ Limited	✓ Good



# An *open-source*

Python framework  
that ***democratizes***  
***NLP*** development in  
Africa by reducing  
fine-tuning  
complexity and costs

**Target Users:** Developers, startups,  
researchers, government agencies



## Our Product

- It enables developers to:
  - Fine-tune BERT, DistilBERT, RoBERTa for ANY NLP task
  - Handle multilingual/multilabel/multiclass classification
  - Support translation, QA, QA/QC, NER, sentiment, summarization
  - Create custom data structures easily
  - Combine single tasks into multi-task models
  - African devs spend weeks setting up NLP experiments
  - No unified framework for multiple NLP tasks
  - Expensive computational resources
  - Western models don't understand local context
- What we offer:**
- One framework for ALL NLP fine-tuning tasks
  - 50% faster experimentation cycle
  - Built-in African language support
  - Open-source = \$0 cost for startups

# Winning Strategy

## Prior

- Position as "Swahili & African Language Multi-Task AI Platform"
- Emphasize cost reduction for Kenyan businesses/government
- Highlight local context understanding
- **Show Individual Models** - Train Swahili sentiment + NER models.
- **Demonstrate Fusion** - Combine into a unified African-language model.
- **Live African Context** - Process local news + government documents.

## Open source

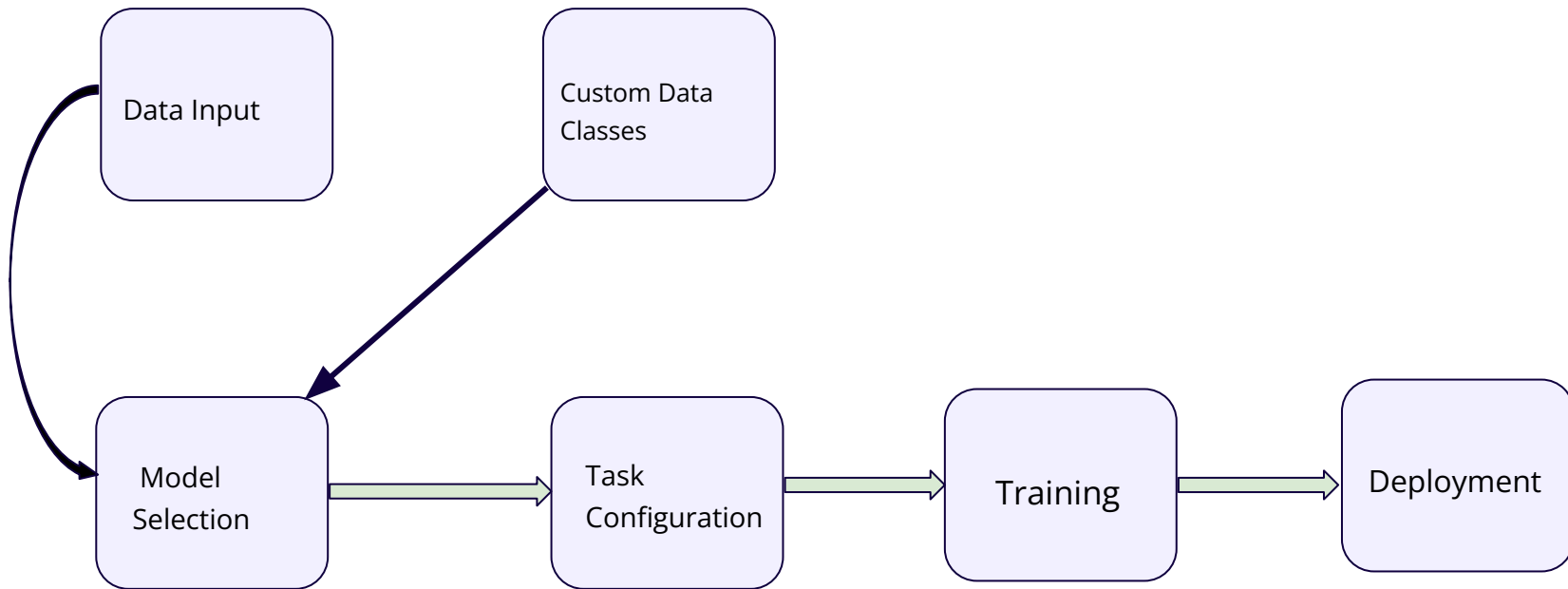
- Open source the core codebase. Find alternative Business model.
- Cool, easy to follow documentation and tutorials.

## Community

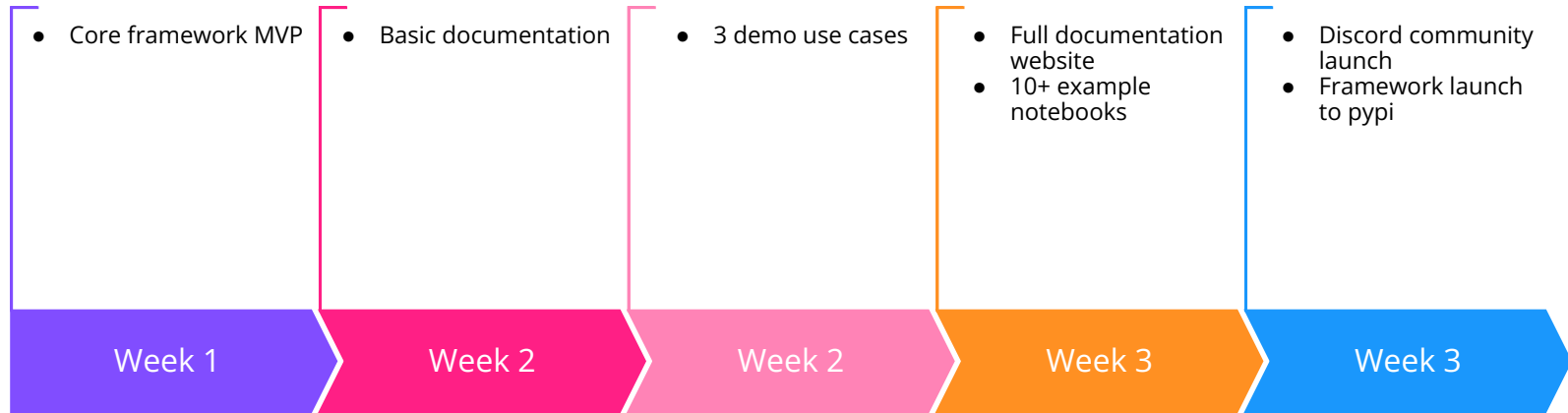
- Using the power of Slack, Discord, Huggingface and bots, create a community.
- Weekly blogs, and sharing of models, concepts, training scripts

3 immediately impactful products using Our Library:

1. Swahili Sentiment Analysis + Named Entity Recognition
2. Government Document Classification + Key Info Extraction
3. Multi-threat Cybersecurity Detection
4. Attention Fusion



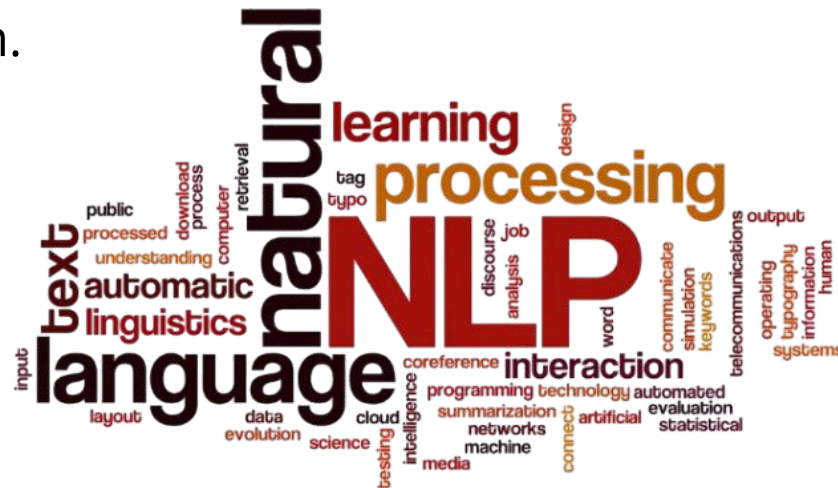
# Timeline



# Summary

We're not just entering a hackathon, we're launching the foundation for Africa's NLP ecosystem.

From healthcare to agriculture to governance, this framework enables African innovation across every sector.



# Team

**Kioko**

Title

**Rogendo**

Title





# THANK YOU

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