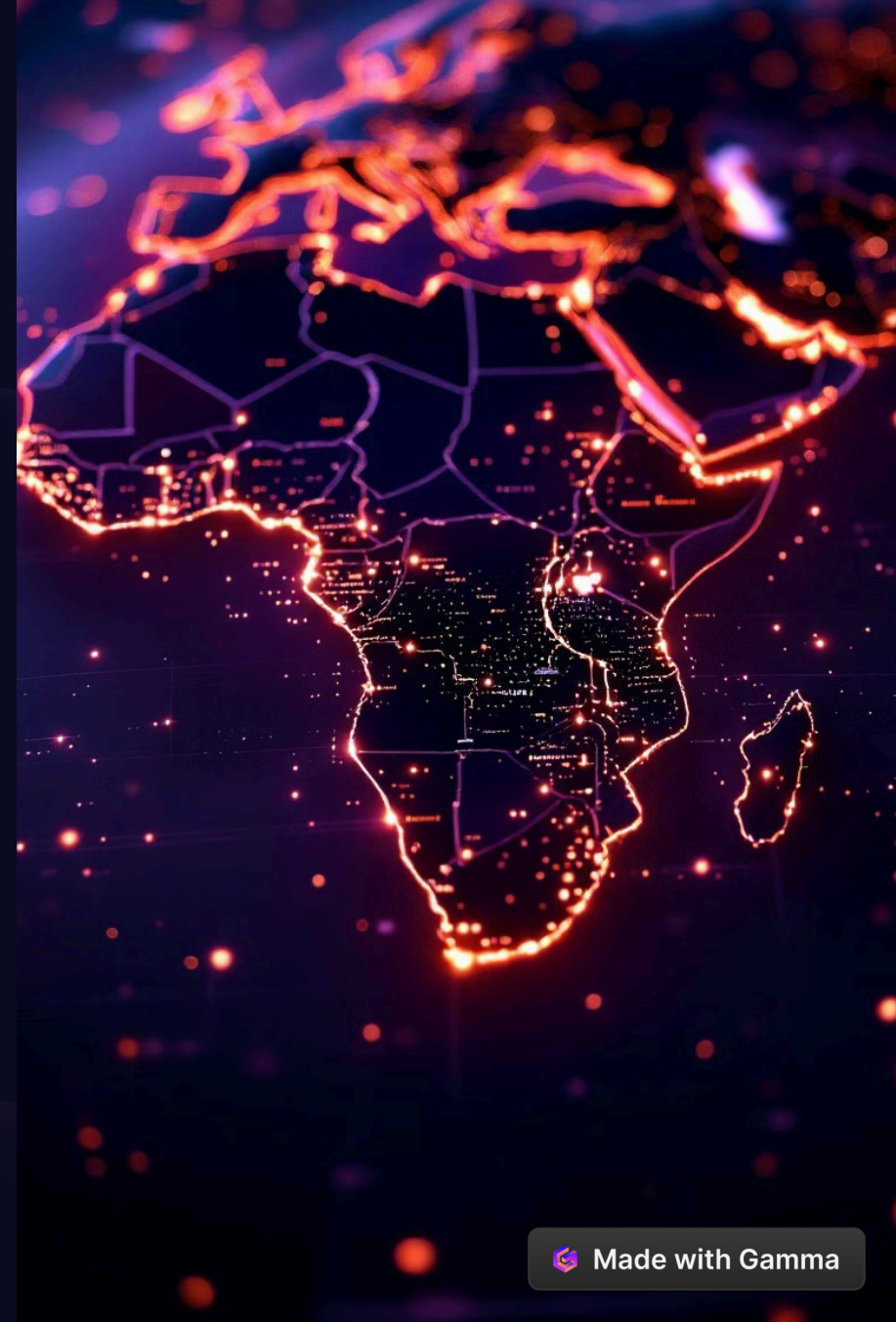


# Conflict Prediction System

A Machine Learning Approach to Predict Conflict Risk in Africa

Data-driven insights to assess conflict risks.

 by **Martin Mwangi Waweru**



# Introduction

## Problem Statement

- Conflicts disrupt economic activities
- High risks for businesses and investors

## Solution

- Conflict Prediction System
- Analyzes historical conflict trends
- Forecasts future risks

# Data Collection & Preprocessing



## Dataset

Source: Armed Conflict Location & Event Data (ACLED)



## Preprocessing Steps

- Handling missing values
- Feature engineering
- Balancing the dataset







# Model Selection & Training

Model	Accuracy	Precision	Recall	ROC-AUC
Logistic Regression	73.2%	0.68	0.65	0.72
Random Forest	78.5%	0.76	0.74	0.81
<b>XGBoost (Final)</b>	<b>85.2%</b>	<b>0.82</b>	<b>0.80</b>	0.87

# Web Application Development



## Backend

Flask



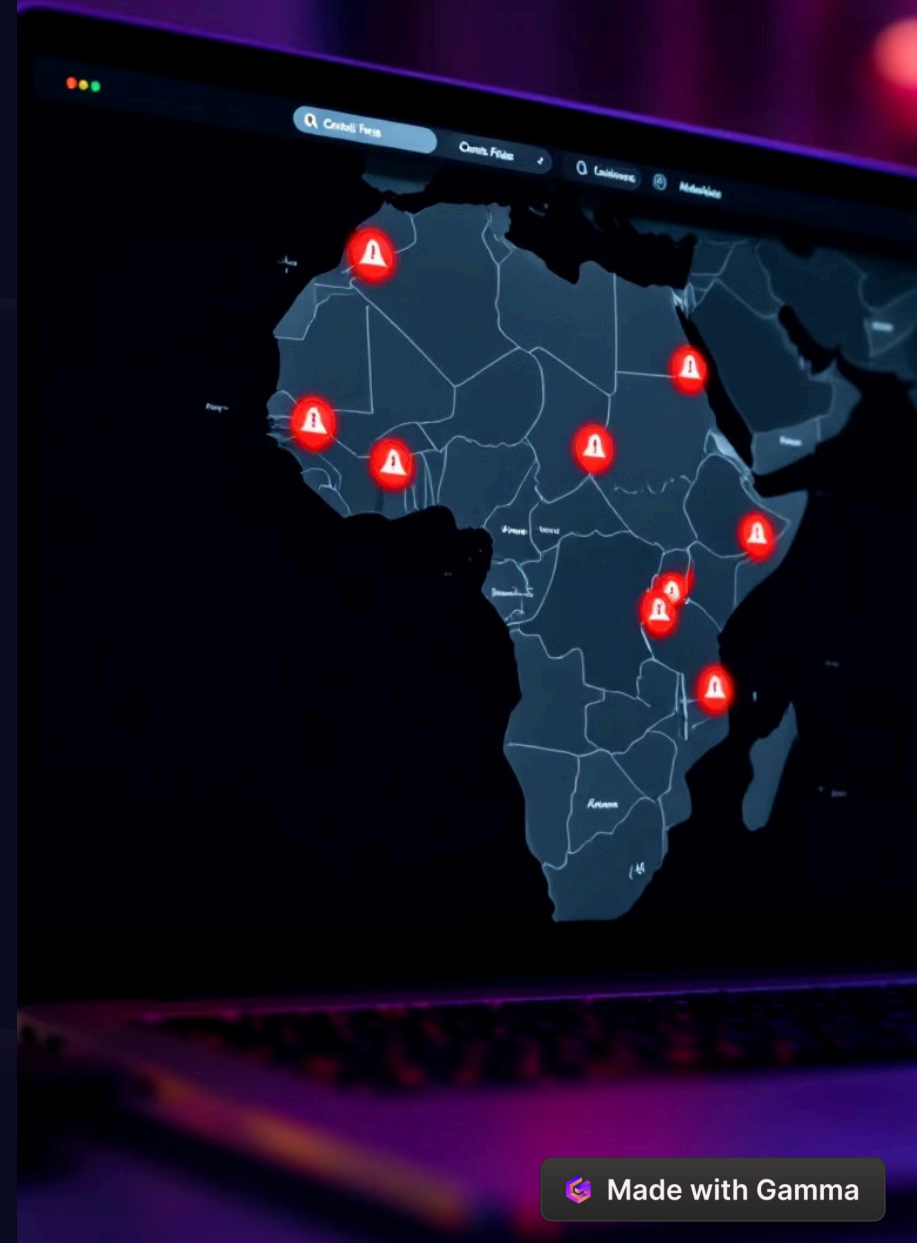
## Frontend

HTML, CSS, JavaScript



## Map Visualization

Folium



# Deployment Strategy



## GitHub

Version control



## Render/Heroku

Hosting the Flask app



## Public URL

User Access





A world map with a dark blue background. The continents are outlined in a lighter blue. Numerous small, bright pink and purple dots are scattered across the map, representing conflict points. These dots are more densely clustered in certain regions, such as the Middle East, Central Africa, and parts of South America and Southeast Asia.

# Results & Insights

## Key Findings

- Higher past fatalities link to conflict
- Northern Africa: improving stability
- Safe countries: near zero conflict risk

## Impact

- Prediction tool for investors
- Risk mitigation strategies for NGOs



# Conclusion & Future Work



## Project Achievements

- Predictive model for conflict risk
- Web app for real-time predictions
- Interactive map visualizations



## Future Improvements

- Incorporate real-time conflict updates
- Expand to global conflict analysis
- Add economic indicators

Thank You!