

AI for Bharat Hackathon

Powered by **aws**



Team Name: Masala Models

Team Leader Name : Vijit Kumar

Problem Statement: Build an AI-powered solution that enhances decision-making, efficiency, or user experience across retail, commerce, and marketplace ecosystems.

Project SHIELD - Supply-chain Hazard & Inflation Early-warning Logic for Distribution

Brief about the Idea: **Current Issue**

India's essential goods markets can **suddenly enter unstable conditions** due to

transport disruptions | extreme weather | festival demand surges | hoarding | fragmented supply chain

“India lacks an early-warning system”

What Happens Today?

Prices jump → panic buying → small sellers blamed → late government response → hoarding increases

Core Gaps

- ✗ No system forecasts harmful price shocks
- ✗ No system explains their causes
- ✗ No system separates temporary noise from real crisis

Brief about the Idea: **Our Solution**

Project SHIELD

Supply-chain Hazard & Inflation Early-warning Logic for Distribution

An AI-based **early warning** and **market stabilization system** that detects dangerous market instability and price shock risk before it harms consumers and small sellers.

- Continuously monitors **prices, transport flows, weather, news** and **demand signals**
- Detects **abnormal market stress patterns** instead of raw price changes



- Identifies and explains the **root cause**
- Generates **proportionate stabilization recommendations**
- Helps prevent **panic buying, artificial scarcity** **delayed intervention**

Not a pricing bot | Not a price prediction engine | Not a single-variable model

How are we DIFFERENT?

Existing Solution(s)

- ✓ Predict future prices
- ✓ Threshold-based alerts
- ✓ Use historical numeric data

Limitations:

- ✗ Agriculture only
- ✗ Black-box, no cause
- ✗ Treat all spikes the same
- ✗ Reactive

They answer:

“What will the price be?”

Project SHIELD

- ✓ Detects price shock risk, not price
- ✓ Uses multi-signal intelligence (prices, logistics, weather, news)
- ✓ Explains causes (disruption, demand, hoarding)
- ✓ Works for all essential goods
- ✓ Prevents harm before panic starts

We answer:

“Is the market entering a harmful shock state?”

Unique Selling Point (USP)

“Market Stabilization, not Price Optimization.”

An explainable, India-first AI system that detects harmful market instability early and stabilizes essential goods prices before people suffer

Multi-signal intelligence

Prices + Weather + Transport + News + Demand behavior

Noise-aware detection

Filters one-off events to avoid false alarms

Explainable by design

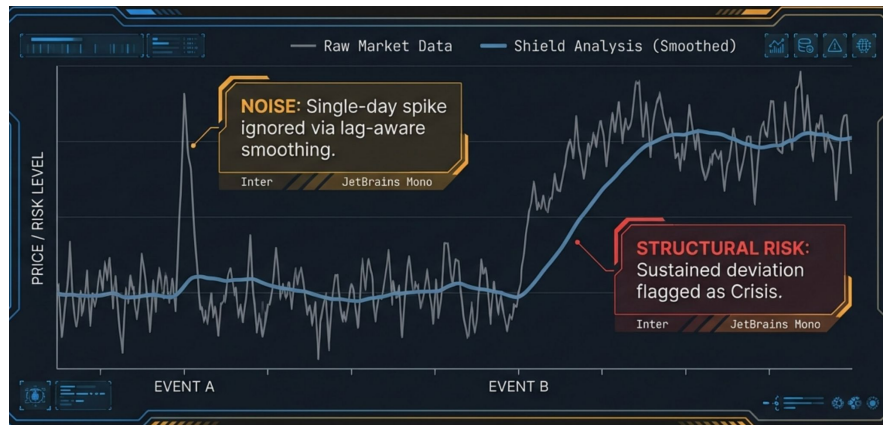
Shows why risk is rising, not just that it is

Built for India

Mandis + e-commerce + fragmented logistics

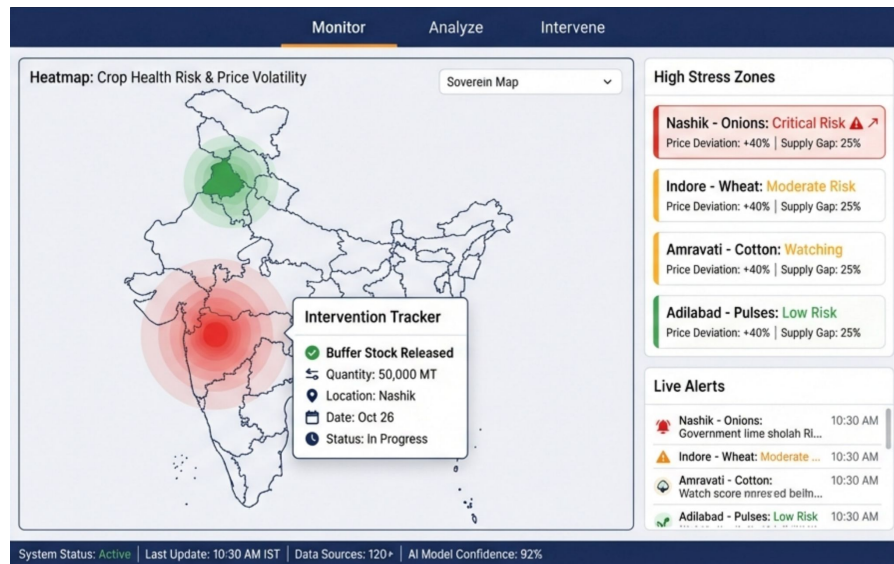
Harm prevention focus

Protects small sellers and everyday consumers



Features of the solution

- ✓ Price Shock Risk Score
- ✓ Cause Explanation Engine
- ✓ Transport Disruption Detector
- ✓ Festival Demand Model
- ✓ Hoarding Risk Flag
- ✓ Region-wise alerts
- ✓ Dashboard for decision-makers
- ✓ Intervention impact tracker

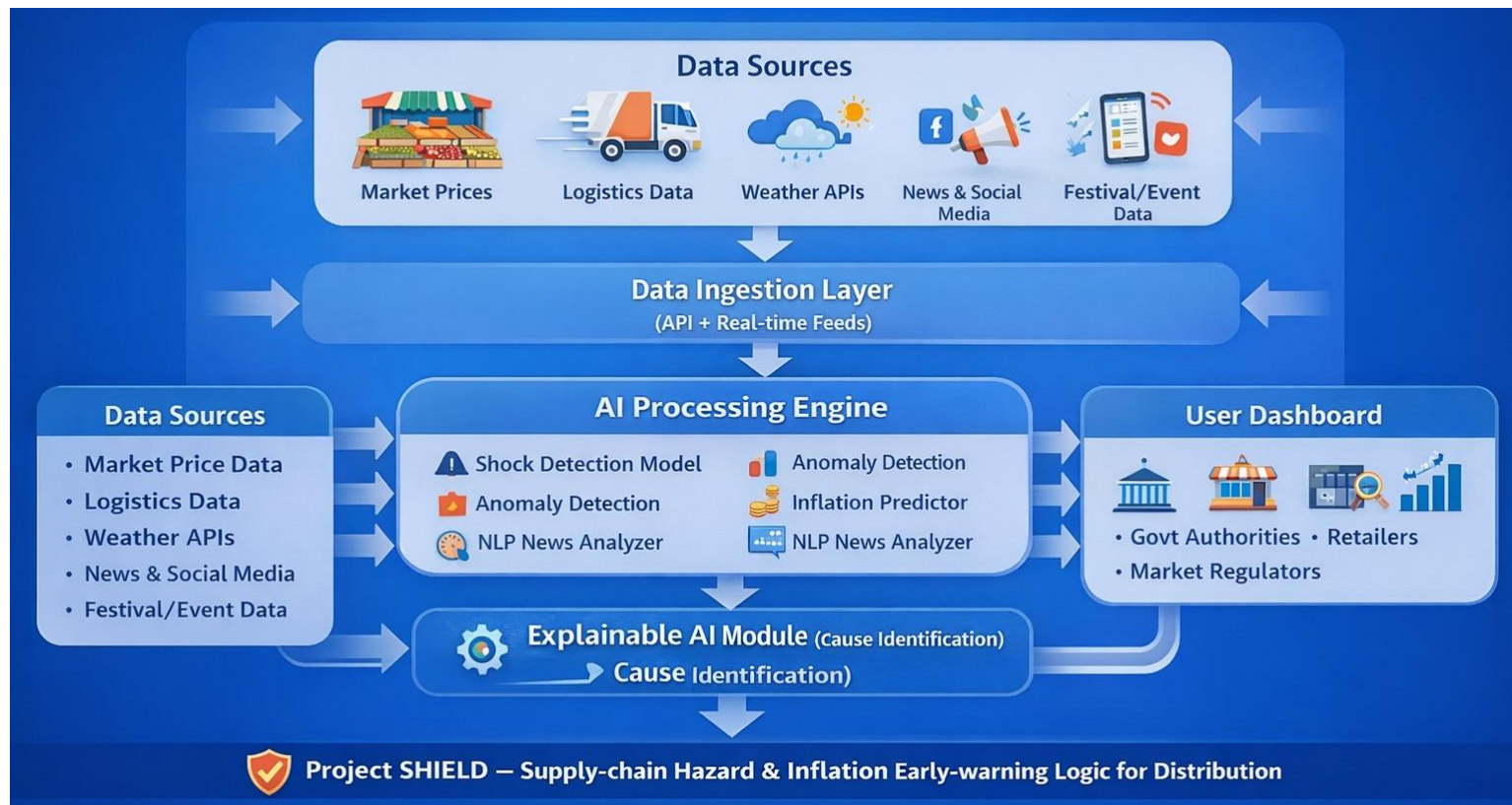


“Action before crisis, not after”

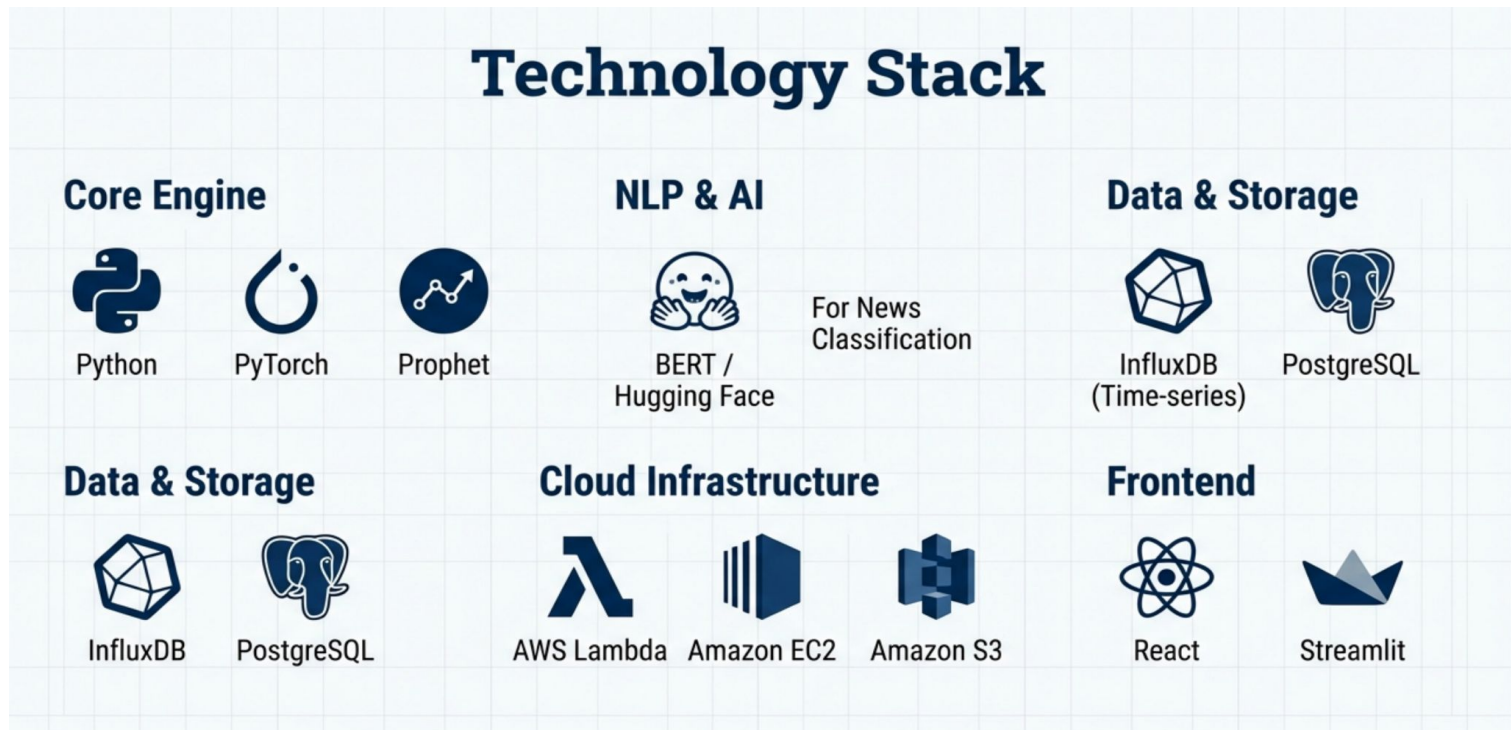
Process Flow/Use Case Diagram



Architecture Diagram



Technologies to be used



Implementation Cost

Cost/Roadmap



Prototype: Free Tier (Hackathon Scale)

Minimal infrastructure, focused on proof of concept.



Pilot: ₹50k - ₹1 Lakh/month (1 State)

Regional deployment, initial data ingestion, testing.



National Scale: Pay-as-you-go Efficiency

Elastic scaling, cost optimization across all regions.

Why AWS for Bharat?



Scalability for 500+ Regions

Handles peak loads during national events, ensuring uptime.



Auditability for Government Compliance

Immutable logs and access controls for transparency.



Pre-built AI for Rapid NLP

Leverage foundational models for Indian languages.

Innovation partner **I12S**
HACKATHON

Media partner **YOURSTORY**

AI for Bharat Hackathon

Powered by **aws**

Thank You

