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AI for Bharat Hackathon

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Team Name :

Team Leader Name :Adari Samuel Prasad

Problem Statement :Urban floods in India are detected late, and disaster response coordination between rescue teams, hospitals, and supply units is slow and fragmented, leading to increased damage and loss of lives

Brief about the Idea:

BharatShield AI is an integrated AI platform that:

- Predicts micro-floods 24–48 hours in advance
- Generates real-time risk heatmaps
- Automatically activates multi-agent disaster response
- Optimizes rescue, medical, and supply allocation dynamically

It combines **satellite-based prediction + intelligent AI coordination** into one unified system.

How is it Different from Existing Systems?

- Existing systems mainly provide rainfall or flood alerts after heavy rainfall occurs.
- Most disaster response coordination is manual and slow.
- Flood prediction and rescue planning are handled separately by different departments.
- Current systems focus on large regions (city/state level), not micro-level zones.

Our Solution:

- Predicts micro-level flood risk (neighborhood specific).
- Integrates early prediction and disaster response into one unified platform.
- Uses Multi-Agent AI for automatic coordination.
- Continuously adapts decisions in real time based on live conditions.

How Will It Solve the Problem? & USP of the Proposed Solution

How It Solves the Problem

- Predicts micro-level flood risk 24 - 48 hours in advance using rainfall, moisture, and terrain analysis.
- Generates real-time flood risk heatmaps for neighborhood-level planning.
- Automatically activates AI agents for rescue, medical, and supply coordination.
- Allocates nearest available resources based on severity score.
- Optimizes safe routes by avoiding flooded or blocked roads.
- Continuously adapts decisions as live conditions change.

Outcome: Reduced response time, efficient resource utilization, and minimized damage.

USP (Unique Selling Proposition)

- Integrated system combining early prediction and autonomous disaster response.
- Multi-Agent AI collaboration for intelligent coordination.
- Micro-zone flood forecasting instead of large-area alerts.
- Real-time adaptive optimization engine.
- Scalable solution for smart cities and national disaster management.

Features offered by the solution

Core Intelligence Features (High-Level)

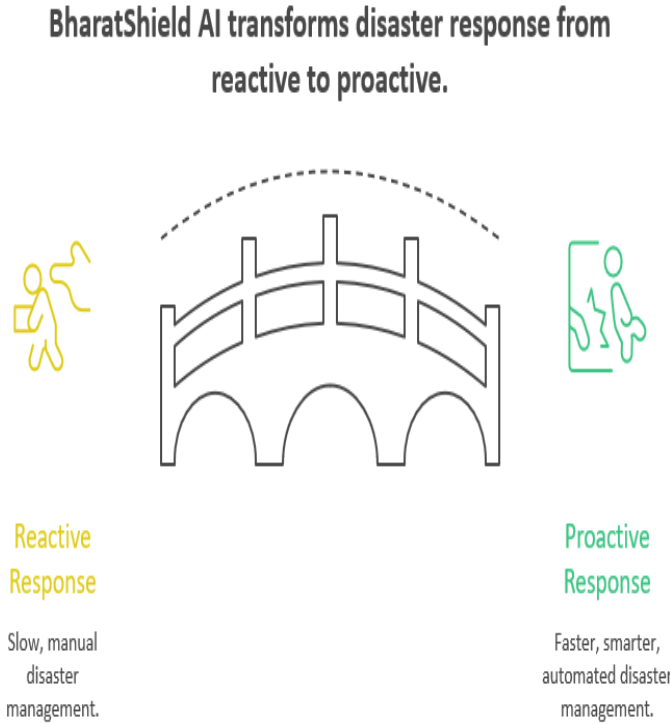
1. Early Micro-Flood Prediction
Predicts localized flood risk 24–48 hours in advance using rainfall and terrain analysis.

2. Dynamic Risk Heatmap
Real-time color-coded flood probability map (Red/Yellow/Green zones).

3. Multi-Agent AI Coordination
Autonomous agents for rescue, medical, supply, and routing.

4. Adaptive Decision Engine
Continuously updates strategies as conditions change.

Process flow diagram and System Architecture



Wireframes/Mock diagrams of the proposed solution (optional)

Architecture diagram of the proposed solution:

Technologies to be used in the solution:

Estimated implementation cost (optional):

Add as per the requirements for the hackathon:

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Thank You