Team Code:- 26CC1139

GAIANA — AI-Based Public Safety Monitoring & Risk Detection System
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Gaiana is an AI-powered public safety assistant that converts CCTV/crowd videos into real-time risk intelligence and automatically triggers police-ready alerts with a live user location map for faster response.

1. The Problem We Solve

Crowded environments (stations, markets, festivals, stadiums) can shift from normal to dangerous within seconds. Today, monitoring is mostly manual and reactive.

Current gaps:

- Operators can't continuously track multiple feeds effectively.
- Risk escalation is often noticed late.
- Even after detection, response teams may lack:
  - A clear timeline ("when did it start?")
  - A reason ("why is this high risk?")
  - The user's live location for quick dispatch

Result: Delayed response, confusion, and preventable harm during crowd incidents.

2. Our Solution (What Gaiana Does)

Gaiana transforms raw video into **actionable, time-stamped decision signals**:

1. **User submits a crowd video** (from a camera feed or a clip)
2. System runs **scene-level anomaly detection**
3. System outputs:
   - Overall risk level: **NONE / LOW / MEDIUM / HIGH**
   - risk score
   - A **timeline**: time + risk window + cause
4. If risk reaches **MEDIUM/HIGH**, Gaiana automatically creates a **police alert**
5. Users can **share live GPS**; police can see user location on a **live map**
6. Police can **acknowledge** cases for operational tracking

Important note: Gaiana focuses on crowd behavior, not identity. No face recognition, no individual tracking.

3. Why This Matters (Impact)

Gaiana reduces the time from "something is happening" to "someone is acting" by delivering:

- **Early detection** (risk escalation)
- **Evidence-based clarity** (timeline + cause)
- **Faster coordination** (live location map + structured alert)
- **Reduced monitoring load** (automated triage of many camera feeds)

4. Key Capabilities (What Makes It Strong)

A) Risk Timeline (Evidence, Not Just a Score)

Instead of a single output, Gaiana produces a **timestamped timeline**:

- risk level per window (NONE/LOW/MED/HIGH)
- event time (first MED/HIGH)
- cause/explanation for why risk increased

This gives responders context they can act on.

B) Auto Alerting to Police Workflow

When risk is MEDIUM/HIGH, Gaiana auto-generates a police-ready alert containing:

- user identifier (email/session)
- location context
- event time
- risk score
- cause summary
- acknowledgement state ("NEW" vs "ACK")

C) Live Location Sharing for Emergency Response

Users can grant GPS access to share their live location.

Police dashboard displays live active users on a map, enabling quicker dispatch and situational awareness.

D) Privacy-Aware by Design

- Scene-level anomaly detection only
- No biometric identification
- No personal profiling

5. Target Users / Customers

Primary Customers

- City police control rooms
- Municipal safety departments
- Metro/railway station authorities
- Event organizers (stadiums, concerts, fairs)
- Private security operations (malls, campuses)

Secondary Users

- Citizens reporting incidents
- On-ground response teams needing location + context quickly

6. Business Idea (How This Becomes a Real Product)

Gaiana can be deployed as a Public Safety Intelligence Platform.

Option 1 — B2G / B2B SaaS (Subscription)

- Sell to cities, transit authorities, venues
- Pricing based on:
  - Number of camera feeds
  - Number of dashboards/users
  - Analytics depth (timeline, advanced models)
  - Retention/reporting

Option 2 — Enterprise License + Support

- One-time annual license with maintenance
- Suitable for government tenders and long-term deployments

Option 3 — Per-Event "Safety as a Service"

- Temporary deployments for events:
  - festivals, rallies, stadium matches
- Short-term pricing per day/week + monitoring seat licenses

Value Proposition (Why Customers Pay)

- Fewer incidents missed
- Faster response coordination
- Evidence-backed incident logs
- Reduced manpower strain in control rooms
- Better public trust and safety KPIs

7. Competitive Advantage (Why Gaiana Is Different)

- Timeline-first design: "When/why" is built into the output, not an afterthought.
- Action-ready police workflow: alerts + acknowledgement + persistence.
- Integrated live location map: bridges the gap between detection and response.
- Privacy-aware: avoids high-risk identity/biometric features while still delivering safety value.
- Works on crowd motion cues: robust for many public environments.

8. Real-World Use Cases

1. **Metro Station Crowd Surge**
   - sudden movement spike → MEDIUM/HIGH
   - police dashboard receives alert + event time + live user location
2. **Festival Exit Panic / Stampede Risk**
   - abnormal motion patterns detected early
   - timeline shows escalation windows
3. **Mall Emergency / Evacuation**
   - security sees risk escalation + can coordinate response
4. **Stadium Gate Congestion**
   - early warning reduces crushing risk near gates

9. Safety, Ethics, and Governance

Gaiana is designed with responsible AI principles:

- No biometric surveillance
- Minimal personal data
- Output is explainable via timeline and cause descriptions
- Intended for safety operations, not profiling

10. Future (Product Growth)

- Real-time camera stream ingestion (beyond file upload)
- Multi-camera correlation ("same incident across zones")
- Heatmaps and geofenced risk zones
- Automated escalation policies (SMS/WhatsApp/dispatch integration)
- Role-based audit logs and incident reports
- Model calibration per location type (station vs festival vs road)

Gaiana turns video into decisions.

By combining anomaly detection, evidence-based timelines, automated police alerts, and live location sharing, Gaiana improves how cities and institutions respond to crowd incidents—faster, clearer, and with privacy in mind.