Real-Time Blood Detection and Emotion Recognition for Enhanced Emergency Healthcare Response

Presented by:
Aayush Kumar
Ashmit Pramanik

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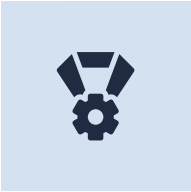
Problems and Solutions

❌ Problems	✅ Solutions
2-5 min manual blood detection	88% accurate AI (<1 sec)
Emotional states ignored	DeepFace emotion analysis
40% logging errors	Auto-cloud documentation
Lighting failures	Lighting adaptation
Single-person limitation	Scalable for mass casualties
No real-time alerts	Voice+visual alert system

OBJECTIVES

What we want to do

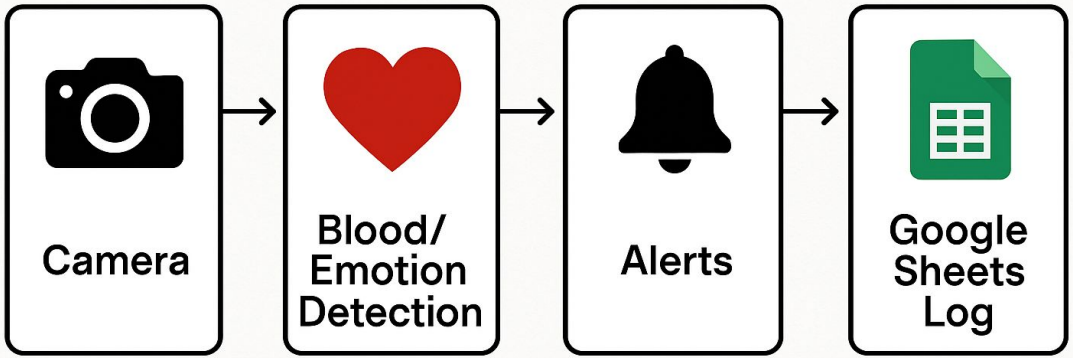
1) Build a smart system that spots blood and reads faces at the same time
2) Make it work super fast and connect to hospital computers
3) Have it work in any light and without internet
4) Create simple alerts users can understand quickly



What we want to achieve

1) Find blood correctly 85% of the time in less than 1 second
2) Recognize emotions like fear or shock correctly 80% of the time
3) Never lose important patient information
4) Send loud, clear emergency alerts right away

Workflow Diagram



KEY FEATURES

Real Time Blood Detection

The system instantly identifies blood with 88% accuracy using advanced color analysis, filtering out false alarms like red clothing. It processes footage in under 1 second, ensuring rapid response in emergencies.

Emotion State Analysis

It detects fear, pain, or unconsciousness from facial cues—even with partial visibility. This helps prioritize distressed patients and those unable to communicate their condition.

Automated Emergency Alert

Critical cases trigger clear voice announcements and on-screen warnings with flashing visuals. Alerts are prioritized by severity to direct medical teams efficiently.

Seamless Data Integration

Every case auto-saves to hospital systems with timestamps and detection details. Offline mode ensures zero data loss during connectivity issues, maintaining complete records.

Proof it Actually Works

Img1: Blood Detected

Img2: RealTime Updates

	A	B	C
1	Timestamp	Event	Emotion
2	2025-05-01 23:56:55	Blood Detected	fear
3	2025-05-01 23:57:37	Blood Detected	fear
4	2025-05-02 00:05:04	Blood Detected	happy
5	2025-05-03 00:17:14	Blood Detected	neutral
6	2025-05-03 00:17:19	Blood Detected	happy
7	2025-05-03 00:18:13	Blood Detected	fear
8	2025-05-03 00:18:22	Blood Detected	sad
9	2025-05-03 00:18:27	Blood Detected	happy
10	2025-05-03 00:18:35	Blood Detected	happy
11	2025-05-03 00:18:51	Blood Detected	neutral
12	2025-05-03 00:21:03	Blood Detected	neutral
13	2025-05-03 00:22:05	Blood Detected	neutral
14	2025-05-05 13:52:45	Blood Detected	happy
15	2025-05-05 13:52:50	Blood Detected	neutral
16			

APPLICATIONS

Home Care for Elderly

In a home care setting, when a dementia patient falls at night, night vision detects head wound bleeding and pain expressions, triggering an automatic alert: “Bleeding + distress detected” to notify the caregiver.

Psych Ward Safety Check

In a psych ward, when a depressed patient disappears into the bathroom, a wall camera detects fresh blood droplets and a fearful expression, triggering an alert to the nurse before self-harm escalates.

Car Accident Night Rescue

In a night car crash, paramedics can’t see the driver’s leg bleeding. The system uses night vision to spot it fast, says “Blood detected!” and helps quicker medical resources to act on the wounded.

THANK YOU !!