



CCTV BASED AI SURVEILLANCE SYSTEM

PROJECT PROPOSAL

PREPARED BY: SonicSpark LLC

VERSION: 2.1 (October 2024)

1. THE CURRENT TRAFFIC CRISIS

Bangladesh, particularly major metropolitan areas like Dhaka, is facing an unprecedented surge in traffic violations and road accidents. Recent data suggests a critical need for automated enforcement to manage the increasing density of vehicles.



SAFETY HAZARDS

Non-compliance with signals and lane discipline leads to frequent bottlenecks and severe accidents.

MANUAL LIMITATIONS

Physical policing cannot provide 24/7 coverage across every major intersection simultaneously.

The lack of real-time monitoring makes it difficult for authorities to identify offenders, leading to a culture of traffic law evasion. Our system seeks to bridge this gap through persistent AI-driven oversight.

2. THE INTELLIGENT FIX

Our solution transforms existing CCTV infrastructure into a proactive enforcement engine. By applying deep learning to live video streams, we enable instantaneous detection and reporting.

CORE CAPABILITIES

Automatic Enforcement: Precisely detects and enforces violations such as wrong-way driving, signal jumping, and speeding.

Threat Identification: Identifies potential public safety threats, including suspicious packages and unauthorized gatherings.

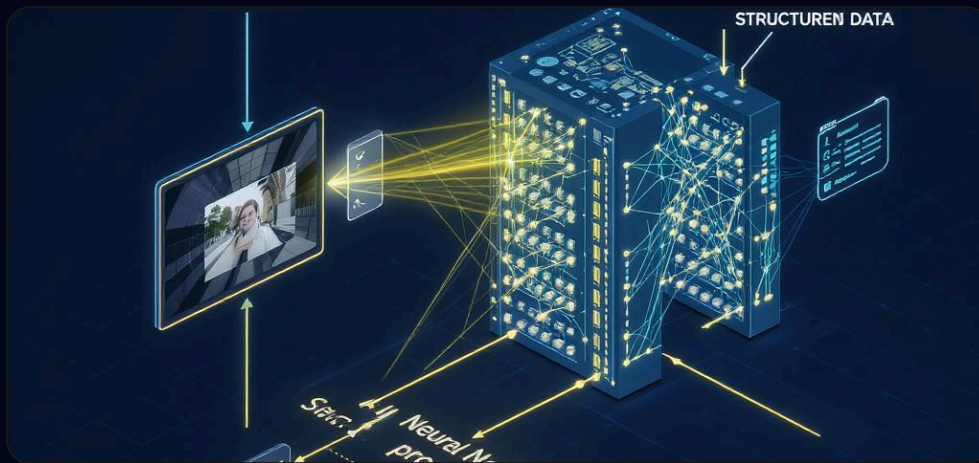
Movement Tracking: Utilizes advanced multi-camera Re-ID to track subjects across the city grid, monitoring dwell times and activity patterns.

Intelligent Recognition: Leverages advanced AI for license plate and facial recognition, enabling precise identity verification and movement tracking.

Real-Time Reporting: Ensures instant reporting (within 1-2 minutes) of incidents, from minor traffic violations to accidents or potential crimes, enabling immediate authority intervention.

3. TECHNICAL ARCHITECTURE

Our system employs a proprietary edge-to-cloud pipeline that ensures high reliability and low latency for mission-critical government operations.



Step 1: Frame Ingestion

Standard RTSP streams are captured from city CCTV cameras at high frame rates.

Step 2: Server-Side Processing

Frames are transmitted to our centralized server cluster where they enter the **SonicSpark Proprietary Pipeline**.

Step 3: Intelligence Layer

Custom neural networks perform object detection (vehicles, pedestrians), behavior analysis, and license plate recognition (ANPR).

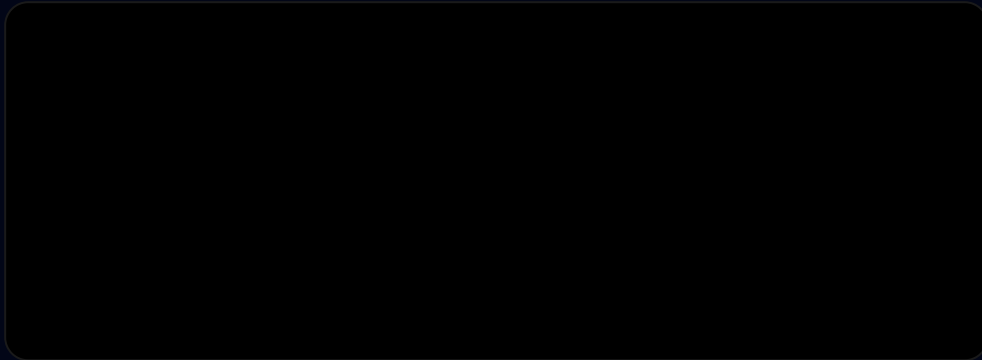
4. PROVEN EXPERIENCE

I. HIGHWAY CROSSWALKS

Deployed for a government-facing contractor in X Country. The system identifies vehicle violations at high-speed highway crossings with automated evidence capture. It also detects license plate number and notifies authorities automatically.

II. SR SYSTEM - SECURITY MONITORING

A specialized deployment for X Country prisons and schools. It monitors rule violations, violence detection, uniform compliance, and intruder alerts.



III. GUARDIANSIGHT RETAIL - SAUDI ARABIA

Developed for the Saudi Arabian retail sector. This implementation monitors store performance, employee activity, and customer flow analytics across large commercial spaces.

READY TO DEPLOY

SonicSpark LLC has the proven global experience and technical infrastructure to secure the future of urban Bangladesh.

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