

# SURAKSHAK

SMART GUARDIAN FOR WOMEN'S SAFETY, ALERTING  
DANGER BEFORE IT STRIKES.

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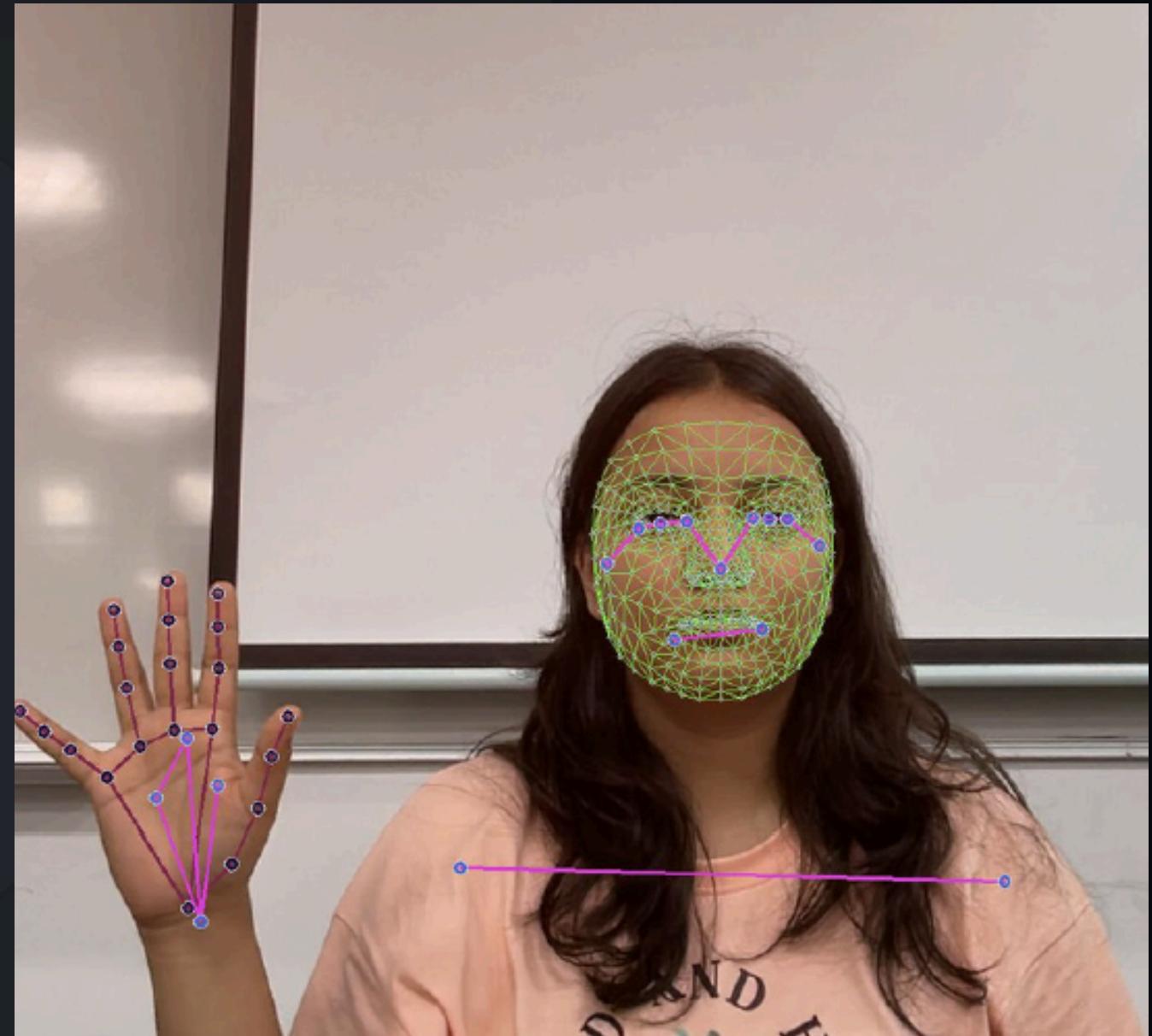
# PROBLEM STATEMENT

We aim to develop a system capable of analyzing visual data to perform several critical tasks. This includes accurately detecting individuals and their genders, quantifying gender distribution within a scene, identifying the presence of a lone woman during nighttime hours, recognizing scenarios where a woman is surrounded by men, detecting the internationally recognized SOS gesture, and pinpointing geographical hotspots of interest.



# OUR SOLUTION

OUR PROPOSED SOLUTION CENTERS AROUND THE DEVELOPMENT OF AN AUTHORITY-CENTRIC SOFTWARE PLATFORM DESIGNED FOR ENHANCED SITUATIONAL AWARENESS AND RAPID RESPONSE. THIS COMPREHENSIVE SYSTEM WILL INCORPORATE **REAL-TIME MONITORING AND ALERT CAPABILITIES, ENABLING PROACTIVE IDENTIFICATION OF CRITICAL EVENTS.** KEY FUNCTIONALITIES INCLUDE PRECISE HOTSPOT IDENTIFICATION FOR TARGETED INTERVENTION, IMMEDIATE RECOGNITION OF SOS GESTURES FOR EMERGENCY ASSISTANCE, AND SOPHISTICATED GENDER DISTRIBUTION ANALYSIS COUPLED WITH THE ABILITY TO DETECT LONE WOMEN IN POTENTIALLY VULNERABLE SITUATIONS.



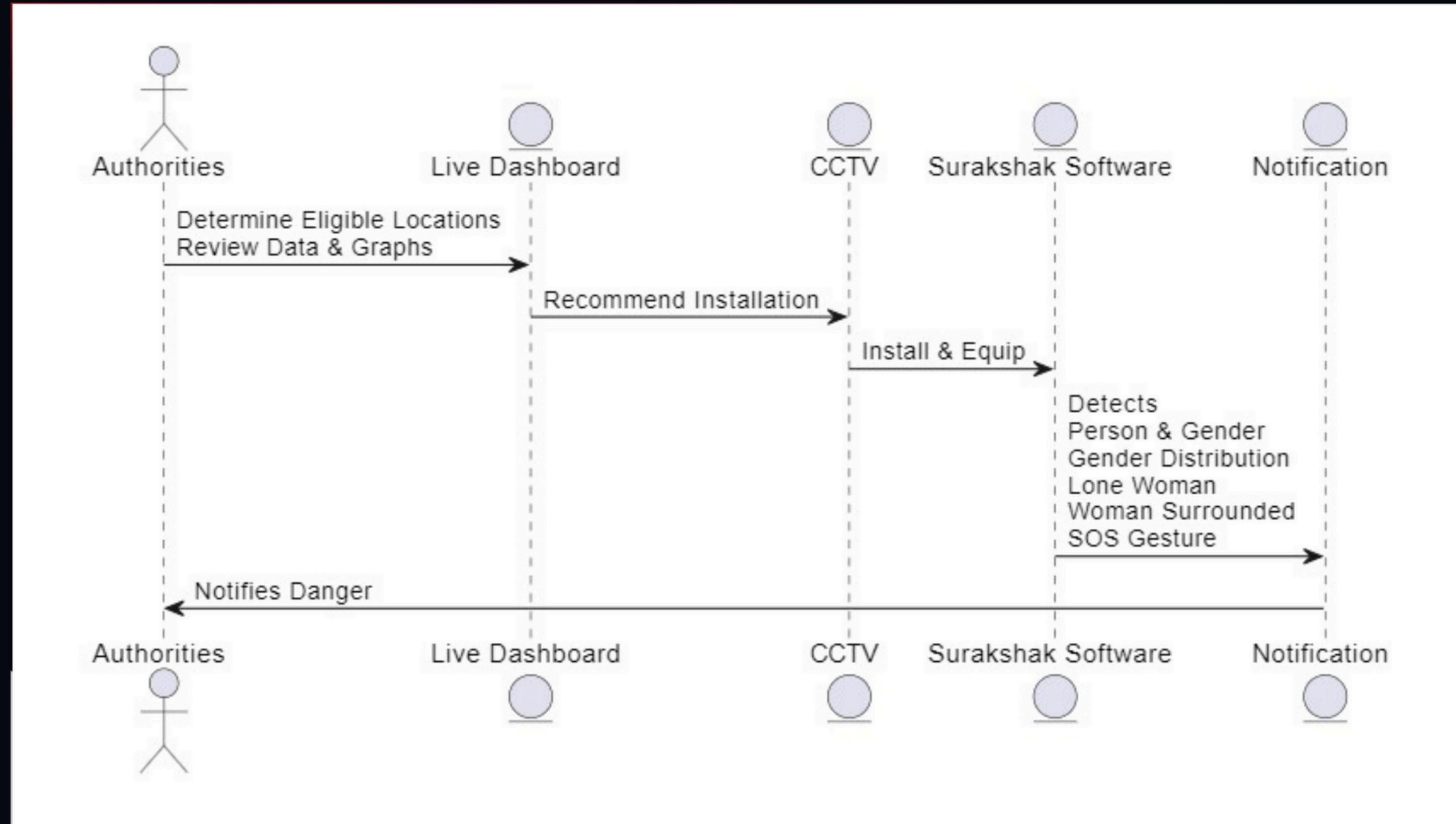
# SOLUTION APPROACH: Models Used

YOLO Object Detection - This model leverages YOLO (You Only Look Once) object detection to identify individuals in real-time video streams. It classifies detected persons by gender using features like facial structure and body contour. The system ensures rapid and accurate gender recognition suitable for safety analytics.

Gender Distribution and Classification Model - The Gender Distribution Model is designed to provide insights into the number of men and women present in a specific location at any given time. By continuously analyzing video footage, the model generates data on gender ratios, which can be crucial for identifying patterns that may indicate unsafe conditions for women.

Emergency Gesture Detection - The Emergency Gesture Detection Model enhances the Women Safety Analytics system by recognizing specific gestures that indicate distress or the need for help. Using advanced pattern recognition and machine learning, this model can identify gestures like raised hands, waving, or other movements commonly associated with SOS situations.

# SEQUENCE DIAGRAM



# MEET THE TEAM

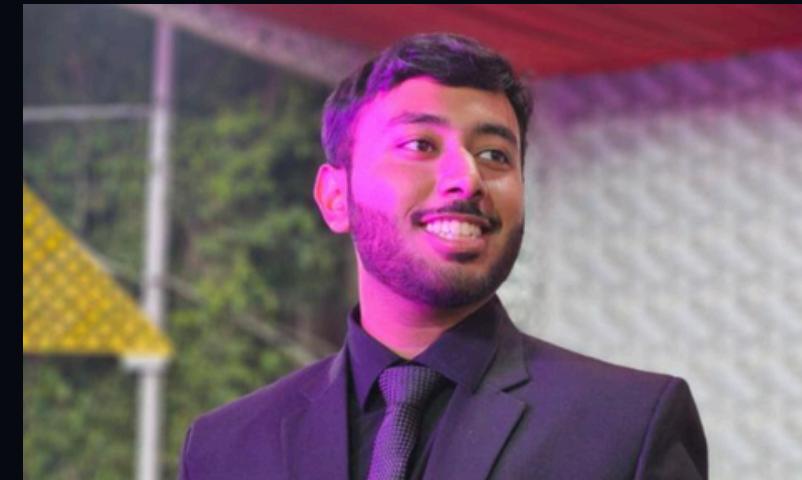
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