



TRASSIR Crowd Detector

Neural network with an adjustable threshold for detecting crowding
Video streaming analytics for security



BASE FUNCTIONALITY

TRASSIR Crowd Detector is an intelligent module designed to find large gathering of people on a video stream.

Designed to improve security and prevent terrorist threats indoors and outdoors.

Basic features can be expanded using additional scripts.

The principle of operation is based on deep learning neural networks which virtually eliminates false positives.

When a potentially dangerous situation is detected, it generates an alarm and sends it to the security service or police for rapid response.

HOW DOES IT WORK?

The neural network detector captures excessive crowding in places where it can lead to potential crime



The trigger threshold is defined: the operator enters the permissible number of people in the frame



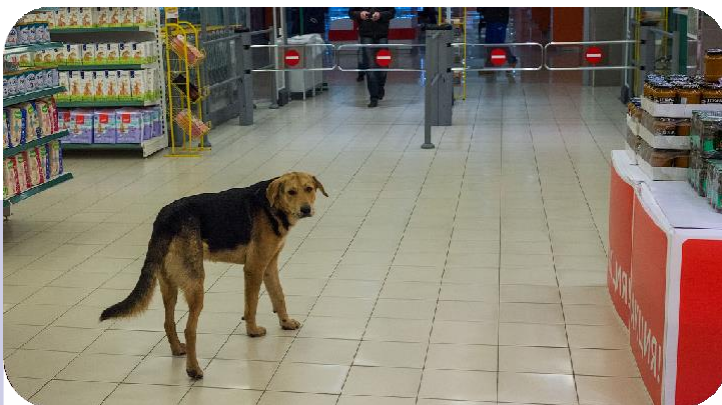
Neural network analytics monitor whether the number of people in the frame matches the trigger threshold



If the number of people exceeds the permissible threshold, an alarm is generated and sent to those in authority

SOLUTION ARCHITECTURE

TRASSIR Crowd Detector is based on neural network analytics. It detects and identifies objects caught in the frame with high accuracy, with the number of false positives close to zero



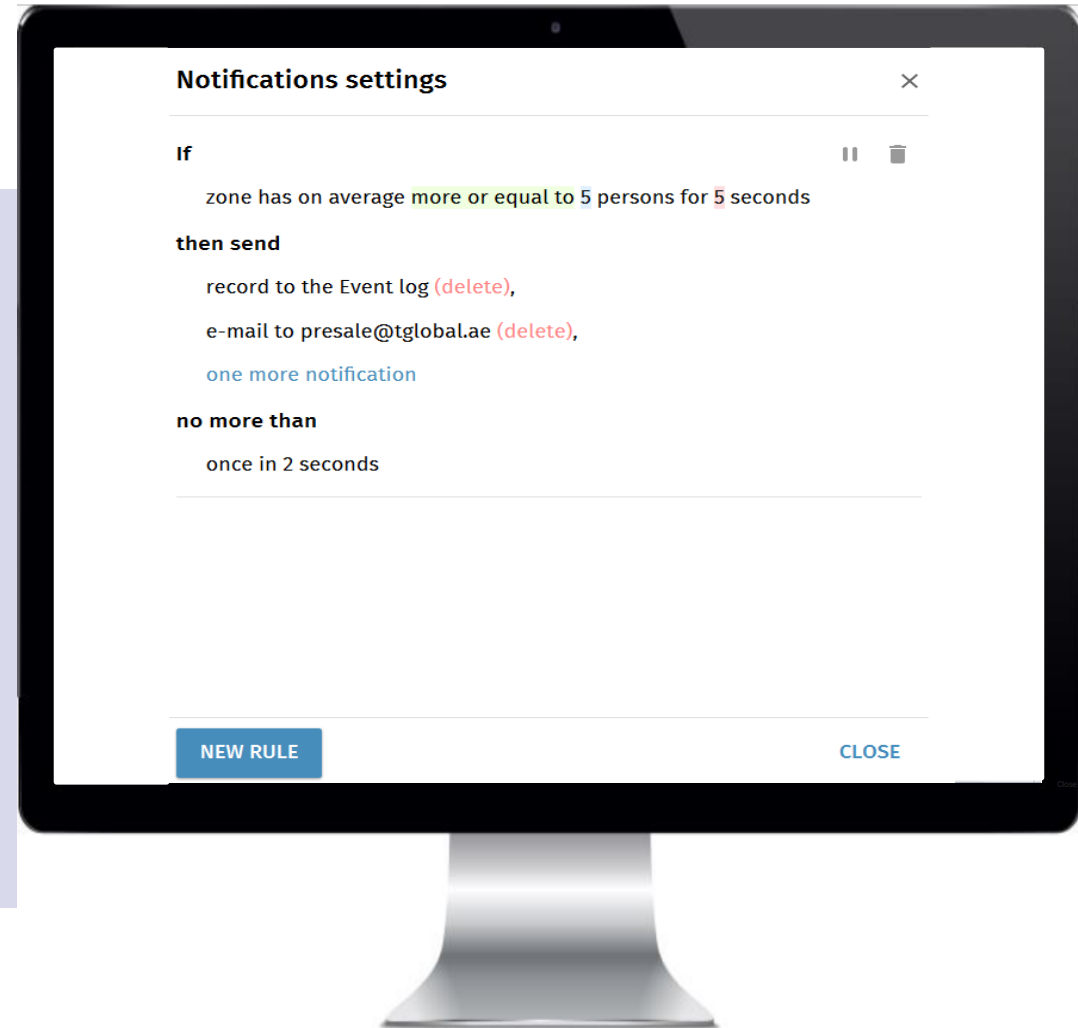
Animals



People and transport

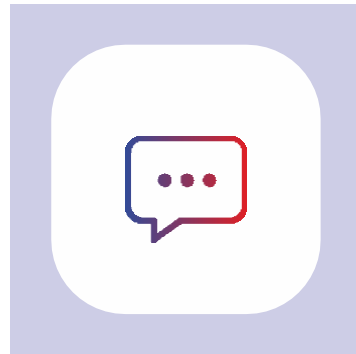
SOLUTION ARCHITECTURE

The operator enters
threshold parameters into TRASSIR
Crowd Detector
to determine the maximum
permissible number of people on the
territory being monitored



SOLUTION ARCHITECTURE

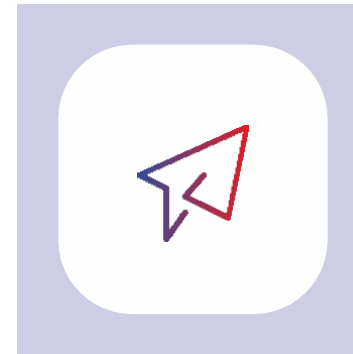
When the maximum number of people in the zone is breached, TRASSIR Crowd Detector automatically generates an alarm notification and sends it to the operator



To e-mail



Push
notifications to
TRASSIR Client



By Telegram
bot

AREAS OF APPLICATION

The TRASSIR Crowd Detector neural network detector can be used at any facility, both indoors and outdoors, where excessive crowding can lead to crime and security control is required.

For preventing any type of terrorist attack, "Columbine" style situations, or massive fights, the detector can be implemented in:

- ✓ **Transport logistics centers:**
Airports, train stations, metropolitan areas
- ✓ **Educational institutions:**
daycares, schools, colleges, universities
- ✓ **Government institutions:**
Administrations of different levels, social infrastructure
- ✓ **Areas of large outdoor gatherings:**
Parks, squares, plazas, pedestrian areas
- ✓ **Cultural and athletic spaces, retail and entertainment centers:**
Stadiums, ice rinks, pools



TRASSIR Crowd Detector: A neural network with an adjustable threshold for crowd detection

USE SCENARIOS

Providing security (for integration with IP and PTZ cameras and TRASSIR add-on modules)



Task

provide security of the territory and perimeter of objects vulnerable to potential terrorist threats (airport, train station, university, stadium, etc.)



Effect

Safety problems are identified at an early stage, prompt notification ensures a quick response, and this prevents an incident from taking on large-scale proportions. Detection of criminals and their vehicles facilitates their search and detection.

Solution

surveillance and PTZ cameras are installed in the protected area. The operator configures the settings in TRASSIR Crowd Detector. When the number of people exceeds the permissible threshold, an alarm is generated and sent to those in authority.

If the situation escalates, additional modules can be activated:



Face Recognition – identifies criminals using a pre-configured face database



Pose Detector – analyzes people's poses, detects fights, terrorist activity, mass shootings



Fire & Smoke Detector – detects fire and smoke, rapid response prevents burning over large areas



AutoTRASSIR – captures and identifies criminals' vehicles when they enter the frame: type, license plates and symbols on them, follows their trajectory, and facilitates capture of criminals

TRASSIR CROWD DETECTOR: POTENTIAL INTEGRATION FOR HIGH-PERFORMANCE SECURITY

You may also be interested in these additional TRASSIR modules:



Face Recognition - identifies and searches for people according to a preconfigured database of faces, identifies potentially dangerous or wanted criminals



Pose Detector - analyzes a person's poses, identifying those that are dangerous



Face Mask Detector - detects the use of protective masks in public places during a pandemic



Social Distance Detector - detects and gives alerts upon violation of social distancing during a pandemic



Fire & Smoke - detects fires and smoke



AutoTRASSIR - captures and recognizes vehicles which enter the frame: their type, license plates and any symbols on them, tracks movement, detects vehicles that are stolen or violate parking rules



Parking - monitors vehicles in the parking area



Sabotage Detector - monitors the quality of the video signal and status of cameras, informs security services and operators of problems with the image

TRASSIR CROWD DETECTOR - SOLUTION ADVANTAGES



Cost-effectiveness and efficiency

Automatic detection allows you to optimize security services and payroll, as well as nearly eliminate errors due to human fallibility



TRASSIR CMS Management System

Manage multiple servers and cameras in a unified system



Independence

The detector easily integrates with already existing equipment and is compatible with 99% of equipment from other vendors



Offload analytics

Supports calculation on a remote server. The license is used on a remote server, not a local one



System health monitoring

TRASSIR CROWD DETECTOR - FEATURES

TRASSIR Crowd Detector works with neuroanalytical TRASSIR NeuroStation servers, as well as Unix-like servers with specific GPUs and TRASSIR daemon installed

Supports Offload analytics - you get additional neuroanalytics capabilities by connecting multiple non-neuroanalytics servers to one TRASSIR NeuroStation server



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