AI-based Situational Awareness

Counter-Infiltration Capability at the Tactical Edge

OVERVIEW

Edge AI Situational Awareness system enhances force protection and base security by leveraging a compact NVIDIA Jetson platform for low size, weight, and power (SWaP) deployment. It combines advanced gait analysis, body morphology assessment, and soft biometric indicators to accurately detect imposters, all while operating fully offline in denied, degraded, intermittent, and contested (D/DIL) environments.

CORE COMPONENTS

Identifying the Threat of Infiltration & Personnel Misrepresentation:

What the Computer Vision Identifies:

- Wearing proper uniforms and PPE
- Mimicking contractor or local national profiles
- Facial recognition easily defeated by:
- Masks, face coverings
- Low-illumination conditions

Insider threats remain one of the most significant vulnerabilities for forward-deployed forces and critical infrastructure

Artificial Intelligence can operate consistently and accurately to deter bad actors and threats before they are able to cause damage

How AI Situational Awareness identifies Known Bad Actors and Possible Threats on a FOB.

What the System Analyzes:

- Body morphology inconsistencies
- Records in biometric watchlists
- Motion Signature Deviation

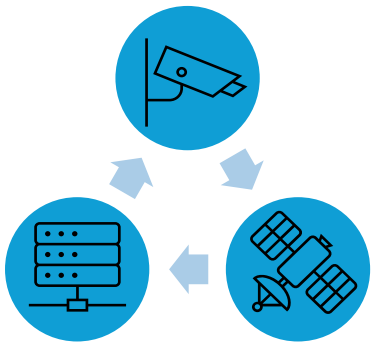
What the System is also capable of detecting:

- Individuals approaching screening points or perimeters
- Individuals Wearing authorized uniform and protective gear
- Faces obscured due to environmental factors

If the system detects any inconsistencies or known bad actors, the system will generate a real-time alert to notify an authority to enforce protection

BENEFITS

- **Comprehensive Threat Detection**
  Spots threats via body morphology, watchlists, and motion deviations.
- **Uniform & PPE Verification**
  Validates uniforms and gear even with obstructions.
- **Offline Edge Resilience**
  Runs independently in rugged, denied, or contested settings.
- **Instant Alerts**
  Sends real-time notifications on infiltrators or known bad actors.



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