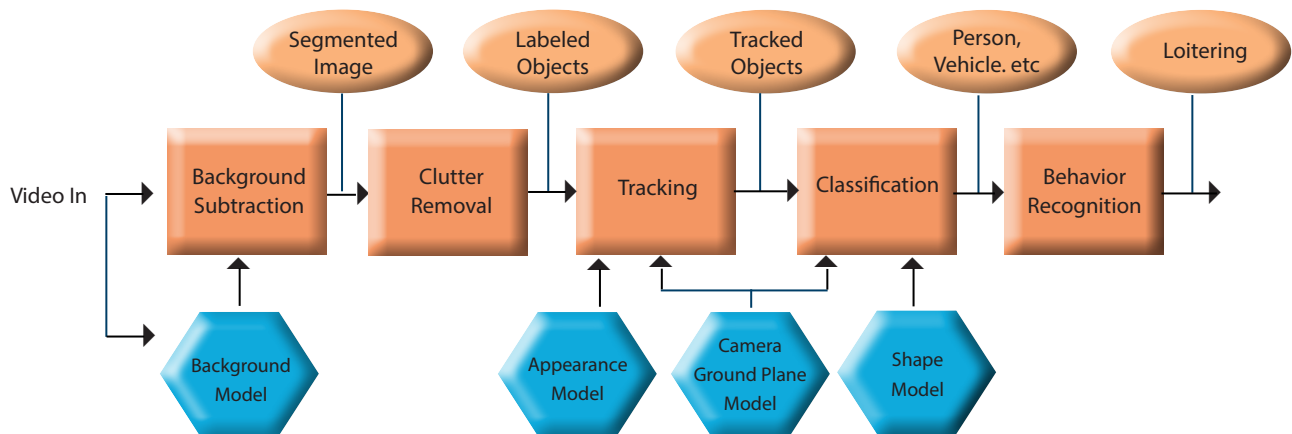




The Power of Video Analytics

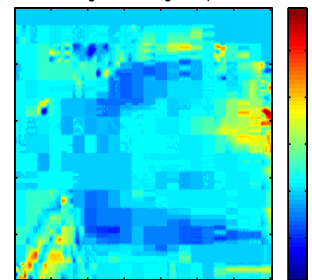
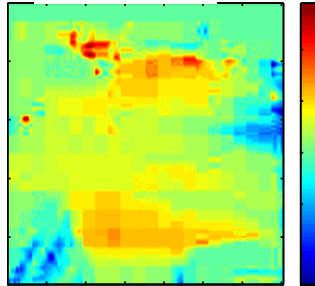
CheckVideo is the only video analytics and detection technology that has been hardened with more than 15 years of field-proven experience. CheckVideo solutions protect airports, critical infrastructure, outdoor assets and provide business intelligence to thousands of customers every day. The analytics technology in each solution goes well beyond motion detection and rules-based approaches that require significant training, and often suffer from high percentages of false alarms. CheckVideo analytics are calibration-free, automatically learn and adapt to the environment and require no training or manual adjustment. With the fastest learning rate in the industry, CheckVideo enabled cameras start detecting accurately within a few seconds. The analytics track and classify all moving objects, and include behavior recognition to only send alerts when certain types of activities occur. Best of all, this is available in a cost-effective package that can be managed and configured entirely off-site.

Video Analysis Process

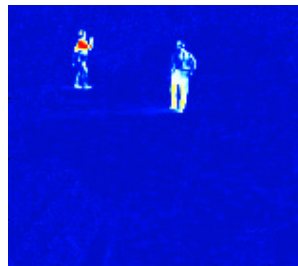


- ▶▶ Background Subtraction: Segment foreground moving pixels from backgrounds
- ▶▶ Clutter Removal: Remove all non-object pixels
- ▶▶ Tracking: A current object is matched with the best-fit object maintained in the track history
- ▶▶ Classification: Classified a labeled object into human(s), vehicle(s), or other objects based on machine learning
- ▶▶ Behavior Recognition: Based on analysis of a snapshot or a track history, report the object's behavior with an alert

Step 1 Create a background image



Step 2 Background subtraction



Step 3 Clutter removal



glare and shadow removed

Step 4 Tracking



two objects tracked

Step 5 Classification



people detected

Step 6 Behavior recognition



loitering person detected

Supported Analytics

Basic Analytics

- ▶ Motion Detection: Detects moving objects in the scene, removes clutter to reduce false alarms.
- ▶ Zone Violation: Detects an object in a zone. Zones can be any polygon shape and unlimited zones per view are supported.
- ▶ Camera Tamper: Detects scene changes, dark conditions, view blocked.
- ▶ Video Loss: Detects video signal loss.

Classification Analytics

- ▶ Person Detection: Qualifies a moving object as a person based on machine learning.
- ▶ Vehicle Detection: Qualifies a moving object as a vehicle based on machine learning.
- ▶ Loitering: Looks for people that stay in a zone for some period of time.
- ▶ Vehicle Stopped: Looks for vehicles that stay in a zone for some period of time.
- ▶ Additional classification analytics available upon request.

Business Analytics

- ▶ Counting: Counts objects or people entering a zone or in a zone. Aggregates counts over hours, days or weeks.
- ▶ Heat Maps: Provides motion, person or vehicle heat maps that show activity overlaid on the view, aggregated over time.
- ▶ Dwell Time: Measures the average amount of time spent by a person or vehicle in a zone.
- ▶ Tracks: Overlays tracking information for people or vehicles on the view.
- ▶ Transaction: Correlates video with transaction events.