Video Analytics

SOUTHWEST RESEARCH INSTITUTE®

Active-Vision

its.swri.org

Overview

SwRI's decades of expertise in artificial intelligence utilizing machine learning techniques have enabled advances across many technical disciplines. For over 15 years, SwRI has leveraged computer vision and machine learning to support clients. SwRI has built advanced sensing algorithms supporting vehicle autonomy for military and commercial vehicles navigating on- and off-road terrain and traditional roadways.

Features

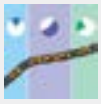
Active-Vision™ is a camera-agnostic software system which provides real-time actionable insights based on traffic camera video feeds.

- Uses existing traffic camera infrastructure
- Software upgrades at no added cost
- Open API-enabled integration with ATMS and other external systems

This Humvee is being driven using SwRI-developed autonomy.

Capabilities

Low-light conditions, camera obstruction due to weather or other environmental conditions, and lights (such as headlights) shining directly into the camera lens all have a negative impact on the ability of Active-Vision (or any other video analytics system) to perform with 100% accuracy. The following existing and near-term capabilities enable transportation agencies to be consistently aware of roadway conditions in real time.

Capability	Description	ATMS Integrations	Capability	Description	ATMS Integrations
	**Wrong-Way Driver** Detected when present in a configured road lane.	• Events (Wrong-Way Driver) • Reporting		**Collisions/Stalled Vehicle** Detected when present in a configured road lane or shoulder.	• Events (Stalled Vehicle) • Reporting
	**Traffic Speed** Detected when vehicles are present.	• Traffic Sensors • Reporting		**Weather or Low Visibility** Low-hanging fog and precipitation are detected when present.	• Events (Fog, Snow) • RWIS • Reporting
	**Traffic Volume** Detected when vehicles are present.	• Traffic Sensors • Reporting		**Traffic Classification** Detected when vehicles are present.	• Traffic Sensors • Reporting
	**Traffic Occupancy** Detected when vehicles are present.	• Traffic Sensors • Reporting		**Congestion/Slow Traffic/ Queue** Existing speed detection capability will be enhanced to report slow traffic based on configured speed threshold.	• Events (Abnormal Congestion) • Reporting
	**Debris** Existing vehicle tracking capability will be enhanced when section of road is being avoided by vehicles, indicating road obstruction. This detection method relies on reasonable traffic flow.				• Events (Road Debris) • Reporting

We welcome your inquiries. For more information, please contact:

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