



## Category Award

Edge Vision Al Traffic Signal Control





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Company Website

## Winning Reason

This edge computing AI image recognition model was designed in collaboration with Academia Sinica with low-power, low-latency, and low-cost algorithms to allow for realtime processing at the data generation site for reduced latency, improved response speed, and decreased the demand for network bandwidth. It recognizes and tracks large vehicles, small vehicles, and motorcycles to monitor mixed traffic flow and turning volume at intersections. It can predict red light violations and extend red light duration to prevent accidents. Its ability to handle mixed cars and motorcycle traffic is suitable for the Taiwan and Southeast Asian markets. This model is beneficial for latency-sensitive scenarios such as autonomous vehicles and smart cities.

## **Product Feature**

1.Edge AI Traffic Recognition GElanNet, optimized from CSPNet and YOLO frameworks, delivers 30+ FPS with 70m multi-lane detection, ensuring precise real-time monitoring in edge environments. 2.Edge AI Traffic Cameras On-device AI processing enables millisecond-level response, ensuring real-time traffic analysis and adaptive signal control without cloud dependency, enhancing efficiency and cybersecurity. 3.Mixed Traffic Detection & Dynamic Signals AI-powered recognition identifies vehicles, motorcycles, bicycles, and pedestrians, dynamically adjusting signal timing based on traffic flow patterns, optimizing road efficiency. 4.AR/VR Data Augmentation Generative AI simulates adverse weather, large events, and traffic surges, enhancing adaptive signal strategies and preparing the system

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