Overview

IntelliVision's *Forward Collision Warning (FCW)* is an ADAS (Advanced Driver Assistance System) application that continuously monitors headway between vehicles and alerts the driver to potential collision. Distractions can turn attention away from the road – FCW is a camera-based collision prevention product capable of alerting the driver before impact.

FCW detects a potential collision condition with the preceding vehicle in the driver's lane. Time-to-collision (TTC) and headway are computed and if below a safe threshold, alarms (audible, LEDs, HUD display, vibration) are set off to alert the driver. FCW requires a windshield-mounted camera. Efficient algorithms within a single sensor system do not require specialized hardware, thus keeping costs low.

IntelliVision provides two versions of FCW – Standard and Advanced. See the feature matrix below.

Benefits

- Improves road safety by alerting the driver to potential collision

- Saves the end-user money as a cost-effective aftermarket ADAS solution

- Saves the end-user time and aggravation through simple installation and automatic calibration

- Flexible C/C++ API allows easy integration and configuration for application developers

- Highly efficient algorithms with small footprint, optimized for low-power embedded platforms

Features

IntelliVision's Forward Collision Warning (FCW) provides the following features:

- Automatic scene calibration

- Alert options (audible alarm, lights, HUD display, vibration)
- Can be enabled and disabled by the user
- Time to collision is adjusted automatically based on vehicle speed (deceleration/acceleration)
- Operational in day and night condition

- Flexible implementation options including directly onto camera chipset, car DVR, or mobile platforms

Feature	Standard FCW	Advanced FCW
Configurable controls for event generation	No	Yes, e.g. min activation speed, sensitivity levels
Use cases	Sedan	Sedan, bus, truck
Configurable frame rate	No	Yes (10-30fps)
Processing resolution	CIF	HD
Vehicle detection up to	30m	60-100m, depends on lens
Adjacent lane FCW	No	Yes

Platform Specifications

- Windshield-mounted camera

- Car DVR or mobile device

- IntelliVision FCW video analytics software can run inside the camera on single-core ARM chipsets or on embedded PC platforms

- Android, Linux or RTOS operating system

- Requires non-interlaced input image resolution of 432x240 pixels for optimal performance. Higher resolutions can be supported provided the aspect ratio remains same. Frame rates of 10 fps or higher are supported.

- Image quality should be reasonable such as proper camera focus, good contrast, low noise and stable video

- Night and low visibility as well as city and highway driving conditions are supported

About IntelliVision

IntelliVision is a market leader in AI and Deep Learning-based video analytics and video cloud software for Smart Cameras. IntelliVision Advanced Driver Assistance Systems (ADAS) improve car and road safety in automobiles. IntelliVision solutions also provide actionable insights for security and monitoring in Smart Home/Enterprise/City/ Retail applications. IntelliVision is a subsidiary of Nortek Security & Control with headquarters in San Jose, California and offices in Asia and Europe.

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