

Car Collision Avoidance System

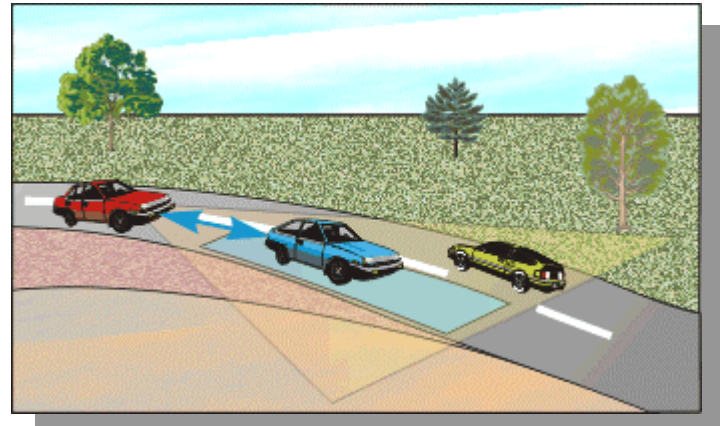
In cooperation with State Research Institute of Aviation Systems (GosNIAS), RC Module has started a new project - Car Collision Avoidance System (CCAS).

The CCAS is a binocular intelligent video sensor that is mounted on a car and performs front monitoring of the road and vehicular traffic. It is based on methods of stereophotogrammetry, digital image processing and Kalman filtration.

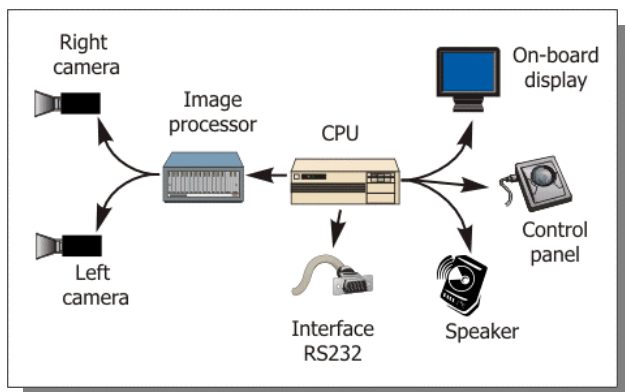
A prototype of CCAS was designed and tested on the highway in real condition

Capabilities:

- Detection and tracking of lane markings
- Road surface 3D reconstruction
- Extrapolation of a lane in the absence of markings
- Detection and tracking of multiple vehicles forward
- Distance, position, relative velocity and size of obstacles are estimated



Specification:



- CCD stereo vision system, high sensitivity in near IR
- Real time image processor up to 2 billion op/sec
- PC compatible central processing unit (CPU)
- On-board raster display
- Easy manipulated control panel
- Audio warning subsystem
- RS-232 communication interface
- C++ portable program

Features:

- Field of view: 20 degree (each camera)
- Detection distance: up to 100 m
- Type of detected obstacles: Car, truck, bike, pedestrian
- Processing speed: 10 – 30 fps (asynchronous)
- Driver's interface: Visual: raster, vector and symbolic information on display
Audio: voice and sound notification
- System interface: RS-232 for connection to car on-board systems

