

Traffic Sign Detection and Recognition

Active safety solutions are fast gaining popularity in the automotive industry. Most of the research and development in this field are focused on prevention of accidents. Human errors are identified as a large contributing factor for major crashes. Driver assistance systems help the drivers to avoid potentially fatal vehicle crashes. The research team at NeST Technology development center team is working towards innovative driver assistance solutions. The focus is on vision based recognition and early warning systems as future safety systems.

The Traffic Sign Recognition (TSR) System detects and recognizes important prohibitory and warning signs from video captured in real time. The source of the video is a camera fitted to a vehicle. The system depends solely on image processing, especially pattern recognition capabilities for its performance.

Features

- Algorithms developed and tested in Matlab\Simulink. Targeted platforms are TI's DaVinci TMS320DM6446 and OMAP 3530. Easily portable to other platforms.
- Simple and effective feature design for Shape and pattern recognition based on support vector machines
- Developed for Vienna convention compliant signs; trainable for other conventions
- Embedded real-time application recognizes 17 critical signs. Reference model capable of recognizing more than 80 different signs.
- Model based design for fast prototyping and customization