

1 Recognizing complex traffic signs

THE NEXT GENERATION OF TRAFFIC SIGN RECOGNITION

FRAUNHOFER TECHNOLOGY FOR REAL-TIME INTERPRETATION OF TRAFFIC SIGNS

Intelligent traffic sign recognition

Do you want to take your traffic sign recognition system to the next level?

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Give your vehicles a hand in understanding traffic signs!

Traffic sign recognition technology has long been able to accurately recognize the most common traffic signs, such as speed limits or "No through road" signs and alert these to the driver. Where it gets tricky, however, is when a traffic sign contains specific information such as when different speed limits are enforced at certain times of the day to control traffic noise or when complex diversion information is being shown. In order to make progress in this area fundamentally new approaches are required.

You too can now benefit from Fraunhofer's innovative image-data recognition technology. Our latest traffic sign recognition concept incorporates both image and data recognition to create a fundamentally new approach: instead of simply comparing camera pictures with existing, pre-programmed signs, our system actually "reads" the signs in order to "understand" and continually process what they are saying. The technology is able to take into account not only the writing and symbols on the sign, but also its shape and the logic of its layout. As a result of the system's "knowledge", the driver is only given information relevant to that specific situation.

FRAUNHOFER IAIS – YOUR PARTNER IN THE EVOLUTION OF HIGHLY EFFICIENT, RELIABLE IMAGE RECOGNITION ALGORITHMS.

Furthermore, the system passes on the information to the navigation system, which then plans the route accordingly. Another advantage our technology has over current systems is that it is not limited to recognizing only circular traffic signs – it can also recognize triangular, rectangular or octagonal signs, as well as every sign shown in the Highway Code. Even more impressively, its detection capabilities are at least ten times more efficient than current systems meaning you will conserve resources that can then be used for other facilities within the vehicle.

The most technologically up-to-date image processing

Reap the benefits of the latest Fraunhofer research and our team's many years of expertise!

During the development of our systems, we draw on our many years of expertise in the field of automatic image analysis and the

analysis of text and image documents. This expertise is based on:

Latest algorithms: Our Algorithm Library for Multimedia Pattern Recognition is the result of 15 years' experience working on object recognition, text recognition on moving images and the unlocking of images with text and symbols.

Cutting edge knowledge: Extensive access to the most up-to-date research allows us to optimize existing problem specific algorithms and to target and implement research into new algorithms specifically in line with our customers' needs.

Extensive software development skills: Established skills developed with C++ allow us to use resources more quickly and more efficiently. We are able to transfer data onto car hardware smoothly with no negative impact on its performance whilst understanding and acknowledging the trademark rights of the implemented algorithms from the outset.

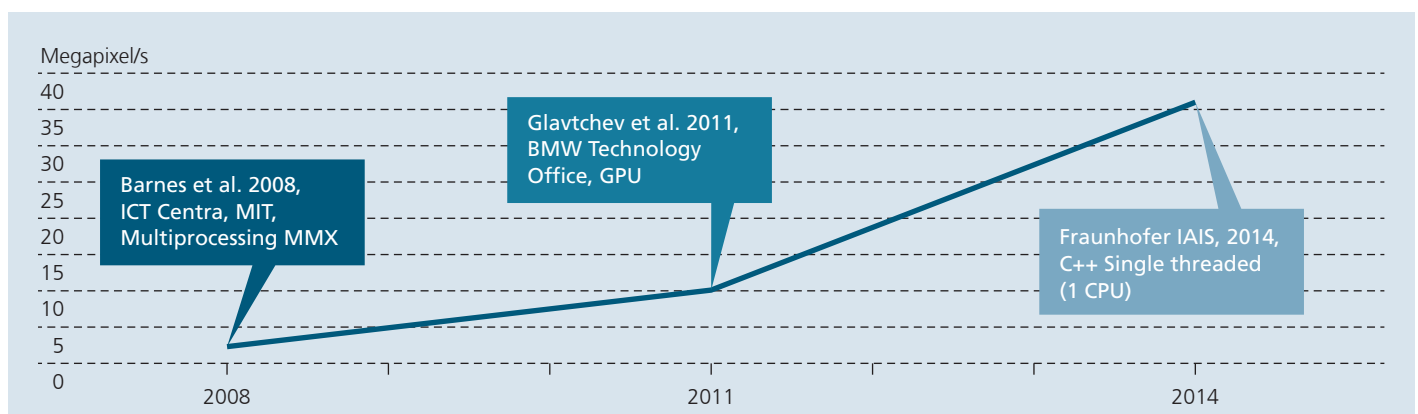
Experienced specialists: Our scientists and specialist pattern recognition engineers have used their problem solving expertise on a wide range of industrial productivity system projects.

The benefits at a glance

Be one step ahead of the competition!

- Detection of all shapes of traffic signs – circular, triangular, rectangular and octagonal
- Recognition of all traffic signs in the Highway Code, including additional signs
- Understanding of complex traffic signs not included in the Highway Code
- Significantly more efficient in its use of resources than existing systems

Use our technology and expertise to develop the next generation of traffic sign recognition technology for your customers.



Radial symmetry detector and optimization