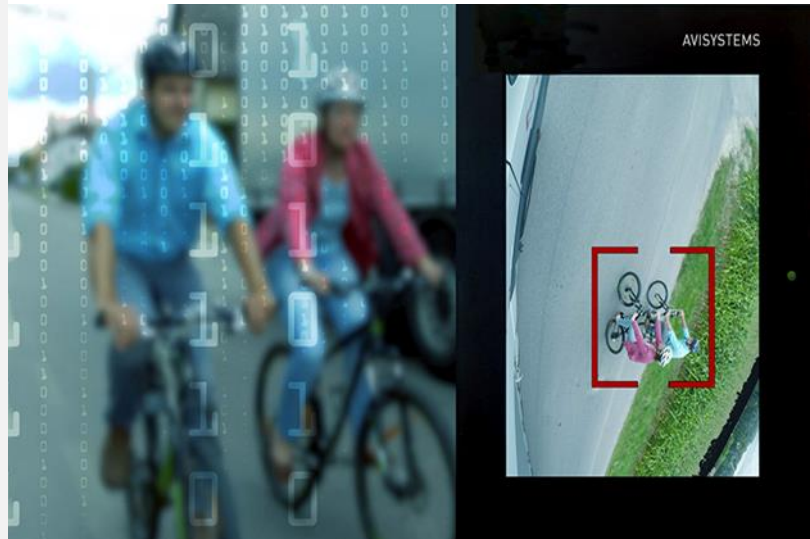


SCCH
Software Competence Center
Hagenberg

Programme: COMET – Competence Centers for Excellent Technologies

Programme line: COMET-Centre K1

Type of project: AiRVS, 2018 - 2019
 FFG General Programme



Recognizing dangerous situations in the rearview mirror, Copyright AVI Systems

AI POWERED SMART TURNING ASSISTANT FOR TRUCKS

THE DANGERS OF BLIND SPOTS ARE MINIMIZED WITH STATE-OF-THE-ART TECHNOLOGY IN THIS RESEARCH PROJECT.

AVI Systems is a pioneer in the development of functionally secure video recognition systems. Deep learning technologies are used to increase traffic safety. One problem is the so-called "blind spot", i.e. the area to the side of the vehicle or in front and behind it, that cannot be seen despite side or rear-view mirrors. The larger the vehicle, the larger this area is and thus the risk of overlooking pedestrians or cyclists. In order to remedy this situation, AVI Systems, together with Software Competence Center Hagenberg, developed the intelligent turning assistant for trucks, buses, and special and emergency vehicles.

Based on Deep Learning technology, the intelligent truck turning assistant detects pedestrians and cyclists in potentially dangerous areas in the blind spot.

The driver is reliably warned both acoustically and visually in real time. One of the central tasks in this project was the adaptation of current deep learning methods for the use of object and person recognition and semantic scene recognition. Another research project is already in the pipeline: In the next step, the SCCH team is going to predict motion behavior.

Road users of all ages and of all sexes move safely and accident-free on Austria's roads at any time of day or night. Pedestrians, cyclists, wheelchair users and other road users can be sure that the turning assistant will always detect them in the blind spot in real time and will provide reliable acoustic and visual feedback to the driver. This allows drivers to react immediately and thus avoid potential accidents. AVI Systems not

SUCCESS STORY

only increases road safety, but is also an expert in high-security video sensor technology for the automotive industry, public transport, industrial quality assurance and traffic engineering.

Impact and effects

The intelligent rear-view mirror, which was also nominated for the State Prize for Mobility, combines high-tech camera-monitor systems with artificial intelligence and deep learning algorithms. This enables reliable collision prediction in real time. The driver is warned only if there is real danger for all road users. The use of artificial intelligence leads to an increase in safety for all road users in the mobility sector. The economic importance of the research cooperation lies in the increase of regional jobs, both in Krems, where AVI Systems is located, and Hagenberg. The aspect of sustainability is reflected in the first-class quality of

the components of the system. The components are produced in Europe and the assembly takes place in Austria and Germany.



The intelligent rear-view mirror provides data in real time, Copyright AVI Systems

Project coordination (Story)

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