

FEV develops AI-supported driver monitoring system CogniSafe

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Aachen – FEV, a leading global innovation driver for the mobility of tomorrow, presents CogniSafe, a state-of-the-art Driver Monitoring System (DMS) that significantly increases road safety. The system uses advanced technologies such as deep learning and computer vision to monitor driver conditions such as distraction, fatigue and inattention in real time and under even the most challenging conditions.

“CogniSafe is a holistic, innovative system that uses a variety of sensors and combines them with artificial intelligence (AI) to precisely analyze driver behavior and alertness”, said Dr. Thomas Hülshorst, Group Vice President Intelligent Mobility & Software at FEV. In (semi-) autonomous vehicles in particular, legal safety requirements are increasing, and the driver must be able to intervene in any situation. “With our latest development, we are actively reducing accidents caused by human error. At over 90 percent, these make up the majority of all accidents,” said Hülshorst.

CogniSafe uses a combination of functions which are unique on the market and coordinate with each other. It uses a network of cameras in the visible light and infrared spectrum to analyze driver behavior from different angles. On this basis, the system continuously tracks the driver's gaze, analyzes eye condition (percentage of eye closure, PERCLOS) and assesses head posture, providing further information on alertness, fatigue and drowsiness.

AI plays a pivotal role in the functions of FEV's latest development. Convolutional Neural Networks (CNN) are used to perform precise real-time analyses that dynamically adapt to different drivers and environmental conditions, such as different lighting conditions, and continuously improve.

“The solution is also very interesting for target groups such as fleet operators or insurance companies, who have a strong interest in safe driving practices”, said Hülshorst.

Further information is available at <https://shorturl.at/hy3dq>

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