Xylon
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Xylon Offers ARTIEYE – a Complete Technology Suite for Customizable AI-based Driver Monitoring Systems

The new ARTIEYE$^®$ computer vision technology suite enables users to skip years of internal development and to take full control over their sensitive driver monitoring and other in-cabin AI systems by offering pre-designed and pre-verified HW/SW IPs, data sets and optimized neural networks, bio-medically established ground truth data, lab setups, development know-how and test and validation tools and procedures

> December 13, 2023, Zagreb (Croatia) – Xylon, a leading provider of intellectual property (IP) cores, services and solutions based on adaptive SoC and FPGA devices, today announced the release of its ARTIEYE$^®$ Driver Monitoring System (DMS) Technology Suite. It's been designed as a comprehensive collection of modules to cover all AI designer needs, from road data collection, and neural networks optimization, all the way to full AI implementations in embedded hardware. The ARTIEYE suite enables users to skip years of development and to take full control over their DMS products.

The DMS and other in-cabin AI systems must "understand" humans and their behavior, which makes their development and validation more complicated and not fully within the expertise of development engineers. To overcome those challenges, Xylon brought together an interdisciplinary team of experts in traffic science, driving human behavior and cognitive science, with a goal of establishing bio-medically proven levels of a driver's drowsiness and distraction.

The resulting ARTIEYE suite includes pre-verified and customizable modules that cover all stages of an AI system's development, starting with the build-up of remotely tracked test fleet of test vehicles with heterogeneous sensors kits, newly developed data acquisition of lab and road driver's data, and definition of AI data sets and bio-medically established ground truth sets of data. The suite includes different neural networks optimized to reliably detect driver drowsiness, as well as visual, manual and cognitive distractions.

The ARTIEYE additionally offers a complete demo and evaluation platform based on the AMD Zynq™ UltraScale+™ adaptive SoC that runs the implemented DNN models in real time. To test and verify the electronic implementation, Xylon has developed various automated test benches that use the logiRECORDER, the company's HIL capable data logger, to inject synthetic and real world raw reference data sets into hardware, and cross-compare the system's outputs with the established ground-truth values.

"By intensively working on driver monitoring technology for the past 10 years, we've been dealing with all the challenges that AI developers are faced with today", said Xylon's founder and CEO Davor Kovacec. "The solutions that came as a direct result of that experience helped us make the ARTIEYE a comprehensive technology suite that speeds up time to market and saves on R&D costs by allowing developers to quickly customize and adopt the provided modules for different in-cabin applications."

ARTIEYE users can license or buy out the complete technology suite or parts of it. Besides the existing off-the-shelf parts, Xylon offers design services for system tuning, as well as

other flexible cooperation models. To learn more about the ARTIEYE, please visit the dedicated website https://www.artieye.ai and get in touch with Xylon at info@logicbricks.com.

As one of AMD Adaptive Computing Premier Partners, Xylon will be showcasing the ARTIEYE DMS demo at the upcoming CES 2024, Jan 9-12, in Las Vegas. To see a live demonstration, please visit AMD Advancing Automotive booth at LVCC West Hall, Level 3 W319.

About Xylon

Xylon is an electronics company focused on design of flexible automotive data logging and HIL solutions, embedded electronics, intellectual property and design services based on programmable FPGA and SoC/MPSoC devices. The company was founded in 1995, and has since then delivered many FPGA/SoC/Embedded designs used in production automotive systems on the road. Xylon is a Premier AMD Adaptive Computing Partner. More information can be found at www.artieye.ai.
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