Rhonda Software introduces the Ambarella CV2-based ECU platform

The Ambarella CV2-based ECU platform became an easy-to-integrate technology for intelligent surround view camera systems

Chicago, Illinois Apr 26, 2023 (Issuewire.com**)** - Rhonda Software, a close Ambarella design partner, launched a multi-channel Electronic Control Unit (ECU) platform with the purpose of accelerating product development of smart automotive solutions. As a provider of camera engineering services, Rhonda recognizes the market need for building-block technologies, such as the ECU platform, that serve as components for the creation of a final product on the market. The hardware

platform is featured with 6 camera inputs and the single Ambarella CV2 SoC that can run multiple Neural Networks (NN).

With great attention to driving safety and vulnerable road users' health, the hardware platform enhances the development of intelligent surround monitoring, blind spot detection, and complex rear view systems that are implemented in commercial light and heavy ground vehicles. For vans and trucks, it is especially challenging to maneuver on intersections. Motorcycle or bicycle drivers are the most frequent casualties in traffic accidents with trucks. Another big obstacle is changing lanes in situations like merging or highway onramps when drivers require extra reassurance in their decisions.

Non-profit research institutes and independent safety assessment associations draw attention to the risks that can happen on the road, and encourage the implementation of the latest deep learning algorithms that are meant to prevent the collision of vehicles with surrounding cars, pedestrians, and objects. Using object detection and tracking algorithms, it is possible to notify drivers about potential risks. With long short-term memory algorithms, unnecessary frequent alarms can be prevented. With human body skeletonization algorithms, AI can detect cyclists' and pedestrians' signs of distraction, and estimate the intent to cross the road. NN-based semantic segmentation can be of great use for free space detection on an adjacent lane.

Running multiple smart camera functionalities, especially semantics segmentation, can be computationally expensive, and is one of the major concerns of computer vision (CV) developers. Knowing that, Rhonda Software chose the Ambarella CV2 SoC to be the core hardware element of the ECU. The Ambarella CV2 SoC has proven itself as having enough capacity to run several neural networks for different smart applications while being a multi-camera solution. Leading automotive enterprises choose the Ambarella processor for their cutting-edge projects and seek competent camera technology partners that can smoothly integrate the Ambarella CVflow with their system and port their CV algorithms.

The Ambarella CV2 ECU offers a wide spectrum of opportunities for the development of a custom camera project on the basis of the features that are already included in the platform. The current ECU feature set includes:

- Rhonda CV2A SoM (based on Ambarella SoC)
- Up to 6 GMSL2 cameras
- 12V/24V power with car battery discharge protection
- Gigabit Ethernet
- Wi-Fi (802.11 a/b/g/n/ac)
- HDMI out
- CAN bus
- USB host & device interfaces
- External GNSS / GPS module support
- External Microphone and Speaker support

About Rhonda Software: Rhonda Software is a camera design partner that provides custom camera development and computer vision integration, porting, and optimization services based on Ambarella SoCs. We develop camera platforms for the unique applications and pioneering projects of our clients, and help them deliver intelligent products to the automotive, transportation, mobile robotics, and other smart camera markets: www.rhondasoftware.com

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