TECHWAY unveils new frame-grabber and FPGA-based image processing cards at Xilinx Developer Forum. Let's join us at our booth to discover our all-new DragonEYE solutions.

Machine Vision: Lower your "computing costs" by combining FPGA & GigE Vision technologies

Beijing, China, Dec. 3, 2019 (Xilinx Developer Forum) – TECHWAY, specialist in high-speed signal and video acquisition, has announced a new product at the 2019 Xilinx Developer Forum Asia station. XDF connects software developers and system designers to the deep expertise of Xilinx experts, partners, and industry thought leaders to gain the insights and inspiration needed to bring innovations to market faster, adapt to the rapidly changing world.

DragonEYE cards have been designed by TECHWAY to satisfy the new requirements for Industrial Vision applications. The DragonEYE range relieves the load on CPUs, whilst increasing the system's processing power. This solution makes it easier to implement a complex technology at low cost. Its quality/price ratio makes it an innovative alternative in industrial contexts.

DragonEYE allows you to manage high-performance applications without increasing the load on the system CPU, thanks to its processing "engine". The TECHWAY engineers' team, who are Xilinx-certified, has perfected an FPGA card handling the GigE Vision protocol and enabling image pre-processing. The primary advantage of this technology is being able to run massive processing in parallel, and thus obtain a real-time result.

It means that using DragonEYE in a PC system does not increase the load on the processor, since the GigE Vision protocol and the pre-processing are carried out on the card in real time. For example, data about polarization intensity sent by a Sony XCG-CP510 camera can be processed in DragonEYE. The CPU will then receive the optimized application images, allowing it to concentrate on detecting defects.

DragonEYE cards can acquire up to 4 GigE Vision streams. They are equipped with an FPGA open to the user, allowing these cards to be integrated in a Vision system irrespective of the target application: Deep Learning, Polarization, High Resolution, etc.

With the aim of simplifying implementation of an FPGA solution, the development kit supplied with the card contains handling software and examples enabling the user to develop their own applications.

The use of FPGAs is becoming more common, thanks to the new tools and products offered by Xilinx such as its VITIS platform and Vivado HLS software, which make it possible to generate an application written in C/C++ to target an FPGA, or the reVISION kit dedicated to Machine Learning.

The Xilinx FPGA used on DragonEYE cards make the card versatile. It can be used to acquire video streams coming from multiple cameras and to apply processing depending on the scene being viewed, before the data is transferred to the CPU. The computer then focuses on performing the downstream processing operations (OpenCV, Matrox Imaging image processing library, etc.). The DragonEYE range can similarly be integrated for "Machine Learning" applications, by using neural network algorithms.

Lastly, FPGA technology is becoming the ideal answer in the search to increase computing power in an industrial world that is rapidly evolving. The DragonEYE range offers unrivaled flexibility, thanks to its open FPGA and its compatibility with all GigE Vision cameras. DragonEYE is a strong ally in implementing complex applications in Vision at low cost. Thanks to its GigE Vision interface, the DragonEYE acquisition and pre-processing card can easily be combined with any camera that is compatible with this protocol.

More information about TECHWAY DragonEYE, please visit https://www.techway.fr/portfolio/vision-fpga-processor-frame-grabber/?lang=en.

More information about XDF is available at https://www.xilinx.com/XDF for additional updates from XDF.

About TECHWAY

TECHWAY develops advanced solutions for video and signal processing. Our ambition is to ease the use of complex technologies by offering pre-integrated solutions to reduce their integration system costs.

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