Product News

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IAR Systems enables high-performance machine learning based on latest neural network library from Arm

The leading development toolchain IAR Embedded Workbench supports the neural network library Arm CMSIS-NN

Uppsala, Sweden—February 23, 2018—IAR Systems®, the future-proof supplier of software tools and services for embedded development, has added support for CMSIS-NN, Arm®'s new neural network kernels. The support is available for developers using the latest version of IAR Embedded Workbench® for Arm.

The Arm Cortex® Microcontroller Software Interface Standard (CMSIS) provides a single, scalable interface standard across all Arm Cortex-M® series processor vendors, simplifying software reuse, reducing the learning curve for microcontroller developers, and reducing the time to market for new devices. The CMSIS-NN software library is a collection of efficient neural network kernels developed to maximize the performance and minimize the memory footprint of neural networks on Arm Cortex-M processor cores. The library can be used to create intelligent IoT edge devices, an approach that is becoming increasingly popular thanks to its ability to save power and accelerate application efficiency.

IAR Embedded Workbench is a leading development toolchain for Arm Cortex-M microcontrollers. Thanks to significant speed optimizations, the included IAR C/C++ Compiler™ generates very fast and efficient code. With the shortest possible execution times, it is the ultimate choice for development of high-performance, low-power applications. In addition to the highly optimizing IAR C/C++ Compiler, the tools include extensive debugging and analysis possibilities, and offer the broadest device support in the industry covering more than 5,000 Arm devices.

"Arm is committed to enabling industry-leading neural network frameworks and supporting leading toolchains, such as IAR Embedded Workbench, for optimizing machine learning applications on the smallest IoT edge devices," says Tim Hartley, Product Manager, Machine Learning Group, Arm. "Deploying the CMSIS-NN libraries enables developers to achieve up to 5x performance and efficiency improvement on Cortex-M processors for machine learning applications."

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"Neural networks and machine learning brings exciting new possibilities for embedded developers to move intelligent decisions down to the IoT devices," says Anders Lundgren, Product Manager, IAR Systems. "Developers making use of the powerful features of IAR Embedded Workbench and the Arm CMSIS-NN library will be able to utilize and maximize the power of embedded neural networks on microcontroller-based IoT edge devices."

Visitors at embedded world in Nuremberg, Germany, can learn more about the subject on March 1 at 13:30 when Tim Hartley, Product Manager, Machine Learning Group, Arm, will give a presentation at IAR Systems' booth 4-216**.** The talk is titled "*Bringing machine learning to the edge device*":

Bringing machine learning to the edge device
Imagine a smart sensor that can make decisions autonomously, or save energy by deciding what data to communicate using learned decisions on the values it has sensed. You may have heard of high-performance Arm processors doing machine learning, but what if you could do this on tiny microcontrollers, too? Tim will share how machine learning (ML) on the device is more accessible than ever, as Arm and Arm ecosystem partners have laid the groundwork for building on a proven foundation, so you focus on innovation. He'll explore the range of compute solutions available for you to scale your product, and tools and software support to make your design ready for implementation. Since your device is likely to be connected, Tim will describe the security technology available to protect your hardware from the ground-up, including with the new Platform Security Architecture from Arm. We trust you will leave with fresh ideas for making your next ML project a success!

IAR Systems' full seminar program for embedded world is available at iar.com/embeddedworld2018.

Ends

Editor's Note: IAR Systems, IAR Embedded Workbench, IAR Connect, C-SPY, C-RUN, C-STAT, IAR Visual State, IAR KickStart Kit, I-jet, I-jet Trace, I-scope, IAR Academy, IAR, and the logotype of IAR Systems are trademarks or registered trademarks owned by IAR Systems AB. All other products names are trademarks of their respective owners.

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About IAR Systems

IAR Systems supplies future-proof software tools and services for embedded development, enabling companies worldwide to create the products of today and the innovations of tomorrow. Since 1983, IAR Systems' solutions have ensured quality, reliability and efficiency in the development of over one million embedded applications. The company is headquartered in Uppsala, Sweden and has sales and support offices all over the world. IAR Systems Group AB is listed on NASDAQ OMX Stockholm, Mid Cap. Learn more at www.iar.com.