

Synopsys Announces Support for the Open Neural Network Exchange Format in ARC MetaWare EV Development Toolkit

MOUNTAIN VIEW, Calif., Sept. 6, 2018 /PRNewswire/ -- Synopsys, Inc. (Nasdaq: SNPS) today announced support for the Open Neural Network Exchange (ONNX) format in the upcoming release of its DesignWare® ARC® MetaWare EV Development Toolkit, a complete set of tools, runtime software and libraries to develop vision and artificial intelligence (AI) applications for ARC EV6x Embedded Vision Processor IP. ONNX is an open standard for representing deep learning models that enables trained models to be transferred between AI frameworks. By importing models in the ONNX format, Synopsys' MetaWare EV Development Toolkit will enable developers to train models in any of the frameworks supporting ONNX and then map the models to the convolutional neural network (CNN) engine of the EV6x Processor Family.

"We are excited about Synopsys' ARC MetaWare EV toolkit support for PaddlePaddle models through ONNX," said Yanjun Ma, Head of Deep Learning Technology Department at Baidu. "This opens up the possibility of running a large number of well-trained deep learning models in Synopsys' highly-optimized EV6x embedded vision processors."

ONNX, a community project created by Facebook and Microsoft, is an open ecosystem for interchangeable AI models that provides a common way to represent neural network models. ONNX provides an open source format that enables models to be trained in one framework and transferred to another for inference. ONNX models are currently supported in Caffe2, Microsoft Cognitive Toolkit, MXNet, PaddlePaddle, and PyTorch, and there are connectors for many other common frameworks and libraries.

"We see the need for greater interoperability in the AI tools community so developers don't get locked into a single AI framework for the entire lifecycle of their project," said John Koeter, vice president of marketing for IP at Synopsys. "By supporting ONNX in our ARC MetaWare Development Toolkit, Synopsys gives AI developers the ability to train models in one framework and later transfer them to another framework for inference. As a result, adopters of the EV6x's CNN engine are able to choose the best combination of AI tools and frameworks for getting their designs to production in the shortest possible time."

Availability

The ARC MetaWare EV Development Toolkit with support for ONNX import is scheduled to be available in September 2018.

The DesignWare ARC EV6x Embedded Vision Processors are available now.

About DesignWare IP

Synopsys is a leading provider of high-quality, silicon-proven IP solutions for SoC designs. The broad DesignWare IP portfolio includes logic libraries, embedded memories, embedded test, analog IP, wired and wireless interface IP, security IP, embedded processors and subsystems. To accelerate prototyping, software development and integration of IP into SoCs, Synopsys IP Accelerated initiative offers IP prototyping kits, IP software development kits and IP subsystems. Synopsys extensive investment in IP quality, comprehensive technical support and robust IP development methodology enables designers to reduce integration risk and accelerate time-to-market. For more information on DesignWare IP, visit www.synopsys.com/designware.

About Synopsys

Synopsys, Inc. (Nasdaq: SNPS) is the Silicon to Software™ partner for innovative companies developing the electronic products and software applications we rely on every day. As the world's 15th largest software company, Synopsys has a long history of being a global leader in electronic design automation (EDA) and semiconductor IP and is also growing its leadership in software security and quality solutions. Whether you're a system-on-chip (SoC) designer creating advanced semiconductors, or a software developer writing applications that require the highest security and quality, Synopsys has the solutions needed to deliver innovative, high-quality, secure products. Learn more at www.synopsys.com.

Forward-Looking Statements

This press release contains forward-looking statements within the meaning of Section 21E of the Securities Exchange Act of 1934, including statements regarding the expected release and benefits of the ARC MetaWare EV Development Toolkit with support for ONNX format. Any statements that are not statements of historical

fact may be deemed to be forward-looking statements. These statements involve known and unknown risks, uncertainties and other factors that could cause actual results, time frames or achievements to differ materially from those expressed or implied in the forward-looking statements. Such risks and uncertainties include, among others, interoperability issues with specific AI tools or formats. Other risks and uncertainties that may apply are set forth in the "Risk Factors" section of Synopsys' most recently filed Quarterly Report on Form 10-Q. Synopsys undertakes no obligation to update publicly any forward-looking statements, or to update the reasons actual results could differ materially from those anticipated in these forward-looking statements, even if new information becomes available in the future.

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