

Khronos Group and Au-Zone Technologies to Develop Open Source TensorFlow and Caffe2 Converters for NNEF

SANTA CLARA, CA, USA, May 21, 2018 /EINPresswire.com/ -- May 21, 2018 – Embedded Vision Summit – The Khronos[™] Group, an open consortium of leading hardware and software companies creating advanced acceleration standards, is working with Au-Zone Technologies to enable NNEF[™] (Neural Network Exchange Format) files to be easily used with leading machine learning training frameworks. NNEF enables the optimized ingestion of trained neural networks into hardware inference engines on a diverse range of devices and platforms. Au-Zone is working with the Khronos NNEF Working Group to implement two purpose-built bidirectional converters, between TensorFlow and NNEF and also Caffe2 and NNEF. Both converters are expected to be released as open source projects to the development community in Q3 2018 under the Apache 2.0 license.

"We are very excited to be working with the Khronos Group on the NNEF converter project and for the opportunity to contribute back to the community," said Brad Scott, President of Au-Zone. "By providing the NNEF converters as open source projects, we expect there will be strong adoption, additional contributors, and greatly improved portability for CNN models. To meet our customers needs, we are also adding NNEF import/export capabilities to the DeepView ML Toolkit. This will allow developers to work in their preferred training framework and provide a direct path to deploy, profile and optimize their trained models on a full range of embedded processors including: x86 and Cortex-A based CPUs, Cortex-M MCUs, GPUs with OpenCL[™] support and proprietary NN compute engines."

"The NNEF working group at Khronos is delighted to be working closely with Au-Zone. Growing the range of NNEF exporters for the key machine learning training frameworks widens the choices for training neural networks for embedded inference engines, all as part of our ongoing work to reduce machine learning deployment fragmentation," said Peter McGuinness, NNEF Working Group chair.

Additionally, the NNEF and OpenVX[™] Working Groups are working closely within Khronos to develop open-source importers, using the OpenVX Kernel Import extension, to enable the ingestion and execution of NNEF files. The OpenVX Neural Network extension enables OpenVX to act as a cross-platform inference engine, combining computer vision and deep learning operations in a single graph description for highly-optimized hardware acceleration. Finally, when the final NNEF 1.0 specification is released later this year, Khronos will also provide open source software for ingesting NNEF into the Android NNAPI inferencing stack.

At Embedded Vision Summit, Au-Zone will be in the technology showcase (Booth 802) demonstrating an end-to-end solution that shows how to deploy a pre-trained TensorFlow model to an embedded target using DeepView ML Toolkit and RunTime Inference Engine. Khronos will also host a workshop on Neural Networks and Embedded Vision at Embedded Vision Summit on Thursday, May 24 from 9:00 a.m. to 5:00 p.m., including a new curriculum with the primary focus on NNEF-based neural network inference workflows. Representatives from the NNEF and OpenVX Working Groups and Au-Zone will be in attendance to answer questions. The workshop includes a hands-on interactive session for participants to learn how to solve real-world computer vision and neural network problems using Khronos standards. Registration is open, visit <u>https://www.embedded-</u> vision.com/summit/register and select Vision Technology Workshop Pass - Khronos Group (W-KRG).

The NNEF 1.0 provisional specification and documentation are freely available on the Khronos website, and NNEF open source tools and projects are available in the Khronos NNEF Tools repository.

For more information about The Khronos Group visit Khronos.org.

About The Khronos Group

The Khronos Group is an industry consortium creating open standards to enable the authoring and acceleration of parallel computing, graphics, vision and neural nets on a wide variety of platforms and devices. Khronos standards include Vulkan®, OpenGL®, OpenGL® ES, OpenGL® SC, WebGL™, SPIR-V™, OpenCL™, SYCL™, OpenVX™, NNEF™, COLLADA™, OpenXR™ and gITF™. Khronos members are enabled to contribute to the development of Khronos specifications, are empowered to vote at various stages before public deployment, and are able to accelerate the delivery of their cutting-edge accelerated platforms and applications through early access to specification drafts and conformance tests.

About Au-Zone Technologies

Au-Zone is a leading provider of development tools, and enabling IP used for the design of embedded vision products. Using our architecture agnostic solutions (eCV SDK[™] and DeepView ML[™] Toolkit) we enable our customers to quickly develop and securely deploy machine learning solutions and novel Convolutional Neural Networks across wide range of hardware platforms. Through our product development services and engineering consulting engagements, we help our clients lower development costs, mitigate program risk and shorten time to revenue when designing new vision enabled products. As an ecosystem partner, these development tools, design services and related IP help technology vendors to broaden their market opportunities and better serve their customers. Follow Au-Zone at https://twitter.com/au_zone

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