SPECIAL REPORT

Explainable intelligence is on the way for neural networks

SALLY COLE SENIOR EDITOR

Neural networks are on the path toward explainable intelligence, which may help speed the adoption of artificial intelligence (AI) by the U.S. Department of Defense (DoD).

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Cognitive technologies tackle security, robotics, and data analysis in drive to deliver smart military systems

MARIANA IRIARTE, TECHNOLOGY EDITOR

Cutting-edge cognitive technologies will be the enabling factor in getting autonomous systems off the ground and into the military theater of operations. Specifically, artificial intelligence (AI), machine learning (ML), and deep learning (DL) techniques will be key to developing autonomous systems that deliver on the promise of taking some of the data and operational workload off the warfighter.

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STANDARDS UPDATE

Development of the next-generation OpenVPX-based embedded system standard ? A tri-service convergence of approaches: Part 3 of 3

MIKE HACKERT, NAVAIR & BEN PEDDICORD, CERDEC & DR. ILYA LIPKIN, AFLCMC

Something exciting is happening in the service representative community. Representatives from three
different programs, one from each of the U.S. Department of Defense (DoD) services, have come together with a common objective to solve their respective acquisition problems with an agreed-upon, open architecture standard. Here is the final part of a 3-part article covering the SOSA [Sensor Open System Architecture] Consortium’s efforts. Read Part 1 in the March 2019 issue and Part 2 in the April/May 2019 issue of Military Embedded Systems.

**MIL TECH TRENDS**

**The case for containerization at the tactical edge**

DAVID GREGORY, PACSTAR

At the tactical edge? let’s define it as the platforms, sites, and personnel operating at lethal risk in a battlespace or crisis environment? one frequent challenge is how to create or host a service/application that can make the difference between life and death for the warfighter. Containerization applications can enable
users at the tactical edge to dynamically deploy, manage, and secure critical applications.

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**UNIVERSITY UPDATE**

**Power anomalies can reveal malware hiding within embedded systems**

**SALLY COLE SENIOR EDITOR**

Malware is insidious - with literally millions of varieties available for attackers to choose from - and, despite attempts at prevention, the malicious software occasionally slips through firewalls and other security measures. But researchers at North Carolina State University and University of Texas at Austin have created a way to detect the types of malware that use a system's architecture to thwart traditional security measures.

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**SISTER PUBLICATION - VITA TECHNOLOGIES**

**Next generation VPX backplane production technology**

**GARY RUTLEDGE AMPHENOL BACKPLANE & SYSTEM INTEGRATION**

The new generation of VPX protocols are here and the
next generations are on the horizon. The exciting world of high speed has arrived and before we know it today's technology will be superseded. VPX is "evolving." The next generation of PCIe and Ethernet will add more complexities to the VPX signal channel. We are seeing data rates increase exponentially and the evolution of VPX has begun.

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BEST-IN-SHOW AWARDS

Best in Show awards selected at IMS 2019

MILITARY EMBEDDED SYSTEMS

Military Embedded Systems is excited to announce today the winners of our Best in Show Award contest, which we held for our supporters exhibiting at the 2019 IEEE MTT International Microwave Symposium (IMS) 2019 conference and exposition in Boston. Contest winners are drawn from military embedded systems exhibitors at the event are recognized for the improved performance and innovation they bring to military electronic systems applications such as radar, electronic warfare as well as for embedded computing and RF & microwave solutions.

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CONTEST

Submit Your Product Entries for the Best In Show Awards

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Military Embedded Systems will be highlighting the best products and solutions at the defense electronics industry's top trade shows across the US and Europe.

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Benefits of End-to-End Vocoder Integration

DIGITAL VOICE SYSTEMS

Mission critical situations depend on wireless communication. It is becoming increasingly popular to connect Land Mobile Radio (LMR) networks such as APCO Project 25 and Digital Mobile Radio (DMR) systems with commercial cellular LTE networks.

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SkySafe Defeats Drone Threats with Open-Source SDR

NATIONAL INSTRUMENTS

With the emergence of highly capable, low-cost, wirelessly controlled drones, bad actors can easily execute disruptive operations, such as airport intrusions or surveillance abuse. Read how SkySafe rapidly prototyped and deployed a cutting-edge software defined radio (SDR)-based drone defense system on USRP...

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CONDUANT CORPORATION

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Electronic warfare: an introduction to low latency COTS solutions

ABACO SYSTEMS

In the conflicts of the future, dominance of the electromagnetic spectrum will be a military imperative for victory: either denying access to an enemy, or ensuring unimpeded access to friendly forces. The rate of development of sophisticated electronic warfare applications to support these objectives is, unsurprisingly, accelerating.

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SPONSORED ARTICLE

Get the insider’s view on satellite technology today

WIND RIVER

The first U.S. weather satellite weighed 270 pounds. Its immense size made most people associate the word ‘satellite’ with either a moon, a sputnik, or a modern rig with rocket motors, solar panels, and antennae. Is that still the case?

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Leveraging Open Standards and C4ISR for Multi-domain Challenges in