Elbit Systems is launching MAGNI, an autonomous Multi-Rotor Vertical Take-Off and Landing (VTOL) Unmanned Aerial System (UAS) that is designed to enhance the situational awareness capabilities of mobile forces. According to the company, MAGNI enables rapid deployment and launch from any combat vehicle, transforming it to an effective intelligence gathering platform.

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Robots can help the military ? on land, at sea, in the sky, and in space ? and the U.S. Department of Defense is slowly establishing some guidelines for their ethical use.

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The Defense Advanced Research Projects Agency (DARPA) has awarded six contracts for work on the Angler program, which aims to pioneer the next generation of autonomous underwater robotic systems capable of physical intervention in the deep ocean environment. This class of future unmanned underwater vehicles (UUVs) must overcome reliance on GPS and
Human intervention to support infrastructure establishment and maintenance in the ocean.

Facial, weapon recognition capabilities deployed to USAF base
EMMA HELFRICH, ASSOCIATE EDITOR
Trueface, computer vision technology company, announced that AFWERX, in partnership with the Small Business Innovation Research Program (SBIR), has awarded the company its second contract this year for its facial recognition and weapon identification capabilities. Trueface was selected for a Phase I Air Force contract earlier this year to assess the most impactful use cases for computer vision to be used for security purposes on base.

Improving intelligent tactical data link translation to simplify real-time warfighter communications
STEVE HORSBURGH, CURTISS-WRIGHT
Military organizations around the world rely heavily on tactical data links (TDLs) to securely and reliably share mission-critical information among air, ground, and sea platforms. Because different devices use different TDL types for communications, a highly sophisticated TDL gateway is needed to translate information across the various link types. There’s a huge disconnect, however, between historical TDL gateway designs and modern military requirements.

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A U.S.-Army-led research team developed new algorithms and filled in knowledge gaps about how robots contribute to teams and what robots know about their environment and teammates through effective bidirectional communication that utilizes specific algorithms and artificial intelligence (AI) approaches.

What is a tensor and why should I care?

Over time, the definition of a tensor has varied across communities from mathematics to quantum physics. Lately, it has joined the machine learning community’s lexicon. If you search the web for the definition of a tensor, you will likely be overwhelmed by the varying explanations and heated discussions. In 1900, Gregorio Ricci Curbastro and his student Tullio Levi-Civita first published their theory of tensor calculus, which is also known as absolute differential calculus.

Kobra heavy UGV chosen by U.S. Army

The U.S. Army announced it has chosen the Kobra robot made by FLIR Systems Inc. for the heavy version of its Common Robotic System. The track-mounted vehicles are used for explosive ordnance disposal and other heavy-lifting duties. The contract is valued at up to $109 million for the five-year production run.

Raytheon's Pit Boss equipped with autonomous mission management

Raytheon is designing Pit Boss, an autonomous mission management system for DARPA's Blackjack satellite constellation, with prime Scientific Systems Company, Incorporated.
Modernizing Modeling, Simulation and Training (MS&T) Systems

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