

Robots are Real, but AI's Full Promise is Still on the Horizon



The "Human-Machine Teaming and AI" panel May 8 at Sea-Air-Space 2019. Chuck Fazio

NATIONAL HARBOR, Md. – Artificial intelligence in all its forms, from machine learning algorithms to unmanned systems, is a sure thing for the sea services and its partners, but there is still much to determine in terms of the technological and operational challenges it presents for warfighting.

In a panel discussion on May 8 at Sea-Air-Space, U.S. Coast Guard Rear Adm. David Dermanelian, assistant commandant for C4IT and commander of Coast Guard Cyber Command, framed the conversation as a relevant, real-world issue for the sea services.

"This is not the art of the future. It's happening today," Dermanelian said.

U.S. Marine Corps Brig. Gen. Christian Wortman, vice chief of naval research, said the Corps has an expansive approach to AI and is seeking to embed it into everything the service does, including machine learning to make war more efficient and help make more informed decisions. But he stressed that users "can't look at this in isolation," and the Marines also need enhanced network capabilities and to use the cloud so algorithms can take advantage of the data that is harvested.



“AI” panelist Steven Escaravage, senior vice president for the Strategic Innovation Group at Booz Allen Hamilton. Chuck Fazio U.S. Navy Rear Adm. Casey Morton, who was on day three of his job as program executive officer of Unmanned and Small Combatants, said his service is “firmly” moving in the direction of adding more unmanned elements to its assets, from unmanned surface vehicles to unmanned underwater vehicles and beyond.

“They are going to be a part of our team,” Morton said. “It’s not a matter of if; it’s a matter of when and how fast and how can we get there.”

Right now, he believes the Navy is not yet at human-machine teaming but is working toward that future where Sailors and machines work closely together. He cautioned that there are still a lot of unanswered questions about AI, like what infrastructure it will need, where it will be based in the fleet, how it will be supported, if it will be forward-deployed and other policy issues.

“We are at the early stages of this still,” Morton said. “There are a lot of questions here that are still unanswered.”

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U.S. Coast Guard Rear Adm. David Dermanelian

The U.S. Maritime Administration’s Christopher Walher, who focuses on the education programs of MARAD’s six state maritime academies, sees

AI as a pedagogical challenge, since sometimes subject matter experts are too advanced to be excellent teachers, often skipping over critical points that, to them, appear obvious.

He prefers a “crawl, walk, run” approach to the training pipeline, where MARAD leverages a training process so AI can manage what it excels at and humans can focus on their strengths, much like the current relationship between smartphones and users.

Key for MARAD going forward will be working with other organizations, including a meeting the agency has next month with AI experts so they can share information, versus starting from ground zero on research and development.

“As we talk about crawl, walk, run in the Maritime Administration, we are the little ship that could,” he said. “We don’t have a lot of money for R&D.”

Steven Escaravage, senior vice president for the Strategic Innovation Group at Booz Allen Hamilton, briefly went over his company’s 60 current programs that involve machine learning and robotics, including areas like sensor data processing, electronic warfare, predictive maintenance and optimized planning.

Escaravage said the field of AI in the last six to 12 months has focused on taking what has been written about and researched in the lab and tried to operationalize those concepts so they can be used in real-world environments. He said while AI has suffered from being

overhyped, there are
some rich capabilities for it today.

“Although today’s capabilities are probably over-extended
and somewhat brittle, what’s going to happen in a matter of
months is going to
be real capability that changes pretty much everything we do.”