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Artificial Intelligence Advocate Could Help Commanders in Battle, AI Commission Vice Chair Says

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Commanders could use an artificial intelligence advocate by their side to explain how to use the new technology in combat, former deputy secretary of defense Robert Work said Monday.

Work, who served as vice-chair of the National Security Commission on Artificial Intelligence, compared the position to that of a staff judge advocate "at all levels of command" in the war on terror. He explained that, like the staff judge advocate, this member of the staff would advise commanders of the implications of their decision and "this could happen" in selecting targets. The advocate would also express concerns over possible collateral damage and ensure that they are operating within "universal humanitarian laws" in carrying out the mission.

Commanders "don't have to be experts" in all aspects of artificial intelligence, he said during an online forum sponsored by the Center for Strategic and Budgetary Assessments. But they do have to be familiar with it and other new technologies.

In an answer to a follow-up question about educating commanders, the former under secretary of the Navy stressed that he didn't "want to overload" professional military education with another set of required courses for officers and noncommissioned officers.

Work did call for assessing all enlisted and officer for occupational skills on all entrance exams to the military services. It also means overhauling the personnel system to delineate career paths for enlisted, officers and civilians who have these needed skills.

Those paths don't exist now, he and the other panelists agreed.

Harrison Schramm, a senior fellow at CSBA and Naval Academy graduate, said that in the sea services "all paths to success [promotion] go through command."

The sea services and the Pentagon are not alone in this regard, Jose-Marie Griffiths, president of Dakota State University and a member of the commission, said. "Very few parts of the government track AI [or technological skills] through career paths" for their workers. "The government doesn't even know … who has those skill sets," she said.

In his opening remarks, Work said the commission recognized that "AI is a group of technologies" that starts with talent and runs through integration.

The biggest issue is that while the government can attract "young men and women who are digitally savvy", they can spend months waiting to get hired and even longer for security clearances, then get placed "in jobs where they don't practice their skills." All of this translates into them leaving for the private sector.

Work added that the Office of Personnel Management does not have a way of classifying an applicant who is experienced in coding, but lacks a college degree, yet has skills that could fill an important role in government.

Likewise, "we don't even know how to score our talent for the military" in those areas, he said.

"The big idea" from the commission, according to Work and Griffiths, is creating a digital corps to work in all agencies and departments of the government. Young people "want to graduate from college without crushing debt. We think that would be an enormous attraction" for them to join, Work said.

Included in that idea is the creation of a digital service academy with a seven-year course of instruction, operated in a similar way to the service academies, but designed for the civilian side of the government. “It’s not trying to duplicate the service academies,” Work said. He added that a reserve digital corps would also be established and function in a way that is similar to the military’s reserve components: one weekend a month of training; two weeks a year on assignment as an agency intern or observer.

He estimated the cost at about $70,000 per year for students at the academy, comparable to the military service academies; but the digital academy would not require as large a faculty or staff for things like intercollegiate athletics or need for training ranges.

To succeed in the long term, career paths are required for these government employees, the panelists said.

Griffiths said that a new National Defense Education Act, based upon the lessons learned from the first bill passed after the Soviet Union’s successful launch of the Sputnik satellite, is also needed to improve kindergarten through 12th-grade education. She later emphasized the need for science, technology, engineering and mathematics in middle schools and the continuing education of teachers to keep them current in technological developments.

She also called for more investment in National Science Foundation scholarships and fellowships to build the domestic talent pool in artificial intelligence, machine learning, quantum computing and engineering.

Griffiths and Work said the most politically charged commission recommendations lay in overhauling immigration laws “to remain the world’s magnet for technological talent” and “it’s not an easy problem” to get through Congress. Griffiths noted that one-quarter of American patents in recent years have gone to immigrants. Work added that 79 percent of the graduate students in computer science in American universities are from other countries.

“There’s a great deal more demand than supply” in the domestic tech industry and globally, Schramm said.

Work said the commission recognized security concerns over technology transfers to competitors like China that could arise from issuing more Green Cards to foreign-born doctorate holders from American institutions. He said those concerns also exist among insiders wanting to profit by selling their expertise. Even more common now is the pirating of proprietary technology information through cyber intrusion.

For the military, Schramm said, there is a “glamorous aspect” to artificial intelligence, but also a mundane aspect to it that can address Navy and Air Force problems and achieve immediate results, like personnel rotations and household moves.

Schramm added that another area worth exploring is using it to enhance aviation safety. Data in that area “is well-curated” and can be used in building recommendations for new practices that enhance safety.