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CENSA Working Group Report:
AI Talent Management Strategy for National Security

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Executive Summary

This working group seeks to build on the various recommendations issued by the National Security Commission on Artificial Intelligence (NSCAI) (https://www.nscai.gov/reports). More specifically, it seeks to elevate the NSCAI's "Train and Recruit AI talent" line of effort to a position of primacy in the commission's recommendations.

This working group report provides workforce recommendations, and suggests the NSCAI commission should reframe its priorities by elevating human talent to the center of its recommendations.[1] Rather than focusing on how Artificial Intelligence (AI) can make the existing national security strategies more efficient and effective; we must focus on recruiting, retaining, and training AI talent, so that these talented people can develop AI tools and strategies that give the United States an asymmetric advantage in thought.[2] A people-centric strategy to AI development allows the United States to capitalize on its formidable AI advantage: the world's best AI practitioners and institutions of higher learning.

Critical Observations of the NSCAI Report

The challenge of technical roles – The *AI Expert* is one of the most highly recruited positions in the modern workforce. This working group estimates the national security apparatus needs hundreds of *AI Experts* on top of thousands of *AI Developers* and *Deployment Specialists* to fulfill the obligations outlined in NSCAI's report, which seems unrealistic given the low quantity and high demand of these professionals.

National security workforce displacement – There may be tens of thousands of *End Users* in the national security workforce, many of whom will initially benefit from AI-enabled technology but will eventually be replaced by that same technology. This puts an additional burden on the *Non-Technical Strategic and Tactical Leaders* to identify where the technology will best be used to enable operations, and where personnel are no longer needed in the workforce.

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[1] The "NSCAI Train and Recruit AI Talent" report refers to AI Workforce Archetypes to frame the talent management discussion. These archetypes are: *Experts*, *Developers*, *Deployment Specialists*, *End Users, Non-Technical Leaders*, and *Support Roles*.
[2] This report uses the National Security Commission on AI (NSCAI) definition of AI as: hardware and software that enables computer systems to solve problems and perform tasks that would otherwise require human intelligence.

Limits of Current Strategy – NSCAI prioritizes AI research and development (R&D), and applying AI to national security missions, ahead of training and recruiting AI talent. This working group believes that this is fundamentally flawed approach. A workforce strategy supporting R&D and current national security missions inherently limits what the workforce can accomplish. A people-centric AI strategy allows the workforce to drive R&D in a useful direction and develop AI-enabled national security strategies that have yet to be conceived – similar to Google's *AlphaGo* project.

Working Group Recommendations

Issue #1: Non-technical leaders need to understand AI benefits – If national security leaders, particularly those who are "non-digital natives," do not appreciate the benefits of AI-based decision-making, then most AI-based initiatives will not take hold. *Non-Technical Leaders* must be educated on the benefits of AI enabled decision-making, and they need to become comfortable with the notion that algorithms, not people, will chiefly inform their decisions in the future. Educating these leaders must happen as soon as possible and be incorporated at all levels of supervisory training in government.

Recommendation #1: Incorporate AI into professional education policies – The Joint Staff should issue a Chairman of the Joint Chiefs of Staff Instruction on Professional Military Education Policy that directs officer and non-commissioned officer education institutions to incorporate AI education and decision-making into curriculum and war game exercises. The Office of Personnel Management can issue revised qualification standards for professional education requiring the federal national security workforce to incorporate such training into the pre-supervisory, supervisory, and senior executive level training courses. Additionally, Congress can require executive branch agencies to report on how they are incorporating AI-based decision-making in leadership training from the pre-supervisory through senior-executive levels in the National Defense Authorization Act.

Issue #2: The national security workforce lacks technical expertise – The AI technical workforce archetypes are practically non-existent in the national security workforce. To create the requisite amount of people needed to fill out this workforce, the government must create pathways to recruit and train talent.

Recommendation #2: Create AI expertise pathways to service – There should be three broad pathways: senior executive limited-term appointments, contracting, and scholarships. A thoughtful combination of all three pathways is the most tenable approach to reaching the optimal force structure for national security.

- *Senior Executive Service Limited-Term Appointments*: We recommend that agencies seeking to hire *AI Experts,* do so by hiring them to a limited-term appointment to the Senior Executive Service and categorize the position for "critical position pay authority." This will allow the agency to incentivize the hiring of an expert with greater pay and allow them to work for the government on a temporary basis, which experts would likely prefer. Hiring in this way allows the government to increase its AI technical foundation.

- *Contracting:* AI expertise will need to be contracted as well. Level 1 Pay Schedule for critical positions in 2020 pays $219,200 annual salary. This may attract some experts for limited term service, but the salary is a fraction of what industry is willing and able pay these experts. Congress will need to authorize appropriations for generous, limited-term contracts that will allow private companies to use their talent to fill out the deficit of *AI Experts* and *Developers* in the workforce.

- *Scholarships:* Congress should establish an "AI Scholarship for Service Program" through the National Science Foundation (NSF) to attract young people into the field and cultivate the next generation of AI technical expertise for government service. Using a scholarship-for-service program can fill lower-level expertise positions on a recurring basis so long as the program exists. The program can be modeled after the existing NSF CyberCorps® program, which offers academic year stipends of $25,000 for undergraduate students, $35,000 for graduate students, and following graduation requires students to work for a period equal to the period of the scholarship in government service. However, the program would need appropriations allowing it to grow much larger than the CyberCorps® program, which currently offers approximately 8-12 scholarships annually.

Issue #3: The displaced national security workforce – National security staffs are organized to analyze large quantities of data, identify patterns, and perform massive searches for useful answers, assessments, and recommendations – all tasks that AI-enabled technologies are designed to outperform humans. The ideal AI workforce eliminates certain data intensive analytic jobs, but also creates the need for less technical AI-enabling jobs.

Recommendation #3: Plan to retrain segments of the displaced workforce – As stated previously, thousands of jobs will require AI technical proficiency at a lesser than expert skill level. The *non-technical leaders* – educated effectively through Recommendation #1 – must identify the segments of their workforce that will be displaced by AI and determine whether those segments should be retrained into supportive roles for AI to enable decision-making. This will likely require guidance from the US Chief Human Capital Officers Council, to be uniform across the government's talent management system.

<u>Summary</u>

AI has the potential to give decision-makers in the national security space an asymmetric advantage in strategic thought. Harnessing this advantage requires a focused effort on people, so the United States might develop the most advanced AI strategy in the world. The policy recommendations suggested in this report are a combination of executive and congressional actions requiring cooperation with public and private sector partners. It may be necessary to establish an interagency task force to capture the necessary talent requirements across the national security workforce and promote a legislative agenda in Congress.

Authors:

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