Memos to the PRESIDENT

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Talent Transition

Special Competitive Studies Project

Memos to the
PRESIDENT

Subject:　　　Transform U.S. Education and Work Through Strategic Technology Integration

Purpose:　　　To position the U.S. workforce to compete and succeed in a world driven by artificial intelligence (AI) and unprecedented technological change. A fundamental transformation of education and workforce policies is necessary to build the talent pipeline necessary for maintaining America's leadership in critical technology sectors.

Objectives:

1. *Secure* Global Leadership for Technology Talent
2. *Empower* the American Workforce for Technological Transformation
3. *Modernize* Institutions for the Digital Age
4. *Transform* U.S. Education and Training Through Strategic Technology Integration
5. *Build and Sustain* a Highly Skilled Public Sector Technology Workforce to Meet National Needs

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Background

AI is poised to transform work as we know it. We are on the brink of a complete transformation of what it means to have a "job" and what it means to "do work" on an accelerated timeline never previously seen. Yet neither our education nor immigration systems are currently designed, resourced, empowered, or equipped for the urgent need of ensuring our status as the global innovation power.

At the same time, the United States is locked in an intense competition for talent. China continues to make strategic investments in cultivating and recruiting a leading AI workforce, stating at every opportunity its intent to be the global innovation power.[1] China's strategy includes openly trying to recruit Western technological talent, often with promises of three times a Western salary.[2] If the United States fails to train, attract, and retain top talent—both in the private and public sectors—it risks losing its competitive edge in these critical domains, undermining both economic and national security.

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[1] Jeroen Groenewegen-Lau & Antonia Hmaidi, Where China Stands in the Global Race for Talent, MERICS (2024). See also The Global AI Talent Tracker, Macro Polo (2024).
[2] Bertrand Benoit, et al., China is Bombarding Tech Talent with Job Offers. The West is Freaking Out, Wall Street Journal (2024).

That means the race to develop and deploy AI at scale across industries—and therefore the impact on jobs and workers—will not and cannot slow down. AI advancements have become core to future innovation, growth, and global dominance. The United States must quickly and proactively implement education and workforce policies to meet the growing demands for new jobs and skills. To appreciate the urgency, we need only to consider that over 60 percent of today's occupations were created in the last 80 years,[3] and then recognize how much faster the next generation of transformation will be from AI.

Winning the talent competition will require both (1) a dedicated cadre of data and AI talent to deploy and maintain AI systems at scale and (2) a domestic workforce prepared to use these technologies and to adapt to a rapidly changing labor market. To achieve this, several trends must urgently be addressed:

- **AI is different from previous waves of tech-driven skills demand**. The labor market transformation brought on by AI and artificial general intelligence (AGI) will not look like earlier iterations of general-purpose technologies (GPTs). Previous GPTs ushered in an era of "skills-biased technological change," sparking the four-year college revolution and the advancement of STEM education policy. AI and AGI could instead democratize what had been high-skilled technical tasks,[4] and redefine "high-skill" and high-wage jobs.

- **AI is already disrupting jobs as a new wave automation takes hold**. There are already early warning signs of an accelerated wave of job transformation in the tech and information sectors. White collar jobs may experience the first significant disruption as AI rapidly takes on increasingly complex cognitive tasks.

- **AI advancement is challenging the current STEM paradigm**. The Sputnik-era paradigm of STEM will need to be adapted to meet new demands in the age of AGI. U.S. policy must emphasize building and attracting a top innovation workforce; creating a new middle-class of AI+X practitioners that span industries; and developing sustained talent pipelines in critical sectors like advanced manufacturing, chips, data centers, energy, biotech, and other frontier technologies.

- **AI is delivering new ways to educate and upskill at scale**. It is a critical moment to ensure that education and workforce policies are setting the United States up to harness the opportunities to customize education and training on demand. It will take a radical reimagining of our education systems and the empowerment of our states and school districts.

- **Ability to win in AI and AGI will be decided by who leads as an innovation power**. Advantage will go to which country can cultivate, recruit, and retain the world's best and brightest researchers and developers. While this naturally includes top-tier AI, physics, biology, and other research scientists, the United States must also recognize that while an advanced degree can be a strong foundation, it may not fully capture every individual's potential or productivity.

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[3] David Autor, et al., New Frontiers: The Origins and Content of New Work, 1940–2018, National Bureau of Economic Research Working Paper at 12 (2022).
[4] David Autor, Applying AI to Rebuild Middle Class Jobs, National Bureau of Economic Research at 11 (2024).

Accordingly, the United States must be able to identify and cultivate exceptional talent inside and outside of traditional academic pathways.

- **To unlock capabilities in the public sector – whether supporting those conducting our national security missions, or efficiently expending public funds and disbursing benefits, it is important to recruit and retain AI talent**. Despite years of admitting the problem, the federal government still lacks a dedicated cadre of AI talent.[5] Realizing the power of AI will require defining and institutionalizing a formal data and AI workforce in addition to upskilling the existing workforce in AI tools and capabilities.

Recommendations

Significant challenges require bold ideas. U.S. talent policy must address the above objectives, targeting each layer of the talent stack. Our recommendations outline urgently needed action for both the U.S. workforce and the public sector workforce.

Objective 1: Secure Global Leadership for Technology Talent

Establish the United States as the undisputed global hub for attracting, developing, and retaining the world's most exceptional technology talent to drive innovation, secure critical intellectual property, and maintain a decisive edge in the technology competition.

- **Leverage the National Artificial Intelligence Research Resource (NAIRR) and the National Science Foundation (NSF) AI Institutes to train the next generation of breakthrough scientists.** An AI-ready postsecondary education system is essential for educating and attracting future talent, as AI underpins advances across all STEM disciplines. Access to critical resources like the NAIRR and to faculty trained in AI research—such as academic and industry experts within the NSF's public-private partnership AI Institutes—is also vital. Building upon initial commitments to these initiatives ensures a robust foundation for strategic long-term development of AI talent.

- **Remove caps on green cards for exceptional talent**. The innovation that drives U.S. growth and competitiveness can come from anyone, anywhere. The true battle for talent is one for exceptional talent—talent that can imagine, create, build, and scale successfully. The Federal Government should review the definition of "exceptional" talent and critical skills that are annually reviewed and, if necessary, remove caps on green cards for talent meeting this criteria as part of a more flexible approach to recruiting and retaining the world's top innovators.

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[5] [Artificial Intelligence Scholarship for Service Initiative Need, Feasibility, and Implementation](#), National Science Foundation at 3 (2024)

Objective 2: Empower the American Workforce for Technological Transformation

Equip American workers with universal access to training and reskilling programs aligned with emerging industries, fueling shared prosperity through higher productivity, better wages, and new career opportunities.

- **Establish a National Commission on AI and the Future of Work.[6]** The White House, in coordination with Congress, should establish a Commission charged with the goals above. The Commission should comprehensively review challenges facing the U.S. education and labor ecosystems as AI and other emerging technologies transform skills demand and the nature of work in the public and private sectors and provide recommendations for necessary policies, investments, and institutional reform.

Objective 3: Modernize Institutions and Education for the Digital Age

Transform government institutions at the federal, state, and local levels to meet the challenges of the technological revolution. Government agencies need to be more agile and data-driven and leverage technology to revolutionize education and training, ensuring access to high-quality learning for all.

- **Make federal workforce development programs work better for Americans**. For example, redesign Trade Adjustment Assistance (TAA) to accommodate upskilling related to AI displacement, overhaul the Workforce Innovation and Opportunities Act (WIOA) programming to focus on AI and emerging technology apprenticeships, and work with states to leverage AI job matching using digital learning and employment records as part of the unemployment insurance (UI) program.[7]

Objective 4: Transform U.S. Education and Training Through Strategic Technology Integration

Equip U.S. education and training at all levels by strategically integrating cutting-edge technologies to create a dynamic, personalized, and accessible learning ecosystem. The United States must create an educational system that is responsive to the needs of the 21st-century economy and empowers all learners to reach their full potential.

- **Equip all K-16 public schools with AI tools by 2030**.[8] Significant disparities across U.S. schools can limit the ability of youth and adults to fully access the skills and opportunities needed for economic success. In coordination with state and local governments, the White House should establish a grand challenge for public-private partnerships to bring AI tools to all K-16 classrooms by 2030. The challenge should also encourage industry partnerships to get practitioners in

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[6] A Vision for Competitiveness: Mid-Decade Opportunities for Strategic Victory, Special Competitive Studies Project at 63 (2024).

[7] See for example, Alex Kaplan, Fixing the Mismatch Between Skills and Jobs: A Pilot Project to Test Learning and Employment Records, IBM Think Blog (2020).

[8] A Vision for Competitiveness: Mid-Decade Opportunities for Strategic Victory, Special Competitive Studies Project at 63 (2024).

classrooms alongside teachers as they use the technology to redefine instruction.

● **Build AI-powered skills-based job matching platforms**. Workers seeking new opportunities should be able to quickly find jobs that align with their skills and experience. Public-private partnerships should be leveraged to build and maintain AI-enabled job platforms tailored to specific technologies, industries, or regions. These platforms should have AI-powered search and matching capabilities that (1) connect individuals to roles based on their skillsets and online profiles, (2) provide real-time personal AI career coaching for students and job seekers, and (3) help employers identify qualified candidates—supporting a broader shift toward skill-based hiring.

Objective 5: Build and Sustain a Highly Skilled Public Sector Technology Workforce to Meet National Needs

Establish a robust and adaptable public sector technology workforce capable of meeting the evolving technological needs of the United States government. New pathways for skilled technologists to serve in government—both in full-time and reserve capacities—are critical to ensure they receive the training and development necessary to excel in a rapidly changing technological landscape.

● **Establish a National Reserve Digital Corps (NRDC).**[9] The United States should create a civilian National Reserve Digital Corps to address critical digital and technological needs. Modeled after the military reserves, the NRDC would offer service commitments and incentives to attract skilled professionals. This initiative would harness the expertise of private sector technologists, ensuring the government has access to a flexible and competent digital workforce.

● **Create the Digital Service Academy.**[10] The United States Digital Service Academy (USDSA), in conjunction with the Digital Warfare Service, would be a transformative, accredited degree-granting institution dedicated to cultivating the digital expertise required to meet the federal government's evolving talent needs. USDSA would provide a rigorous education in cutting-edge technologies, data science, and digital innovation explicitly tailored to address critical needs for public service in the digital age. Without a steady and reliable talent pipeline, the U.S. Government, including the U.S. military, will continue to face intense competition for talent in the digital space.

Conclusion

This is an opportunity for transformative action. By addressing today's challenges with strategic reforms and investments, the United States can strengthen its workforce and ensure that the government becomes more capable and efficient. The United States must retain a robust talent ecosystem to drive innovation, support economic growth, and secure its leadership in emerging technologies.

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[9] Final Report, National Security Commission on Artificial Intelligence at 360 (2021).
[10] Final Report, National Security Commission on Artificial Intelligence at 368 (2021).