Building a 21st-Century Workforce

The 21st-century economy requires a workforce equipped with the critical thinking training that lays the groundwork for coding and information management skills. However, our education system is failing to keep pace with the growing demand for American workers with computer science backgrounds and qualifications. Today, only 47 percent of all high school classrooms teach computer science skills, and there continues to be a lack of diversity within those classes, particularly for female and minority students.

Likewise, many ACT | The App Association member companies report a persistent challenge in finding American workers with computer science qualifications. The App Association's membership of small and mid-size businesses encompasses all 435 congressional districts and a wide variety of geographies due to the mobile nature of the digital ecosystem. With a reliable broadband connection, anywhere in the world can become an office. While this is good for our members in that they can hire or contract workers from anywhere in the world, an increased supply of American talent is fundamentally important. The shortage of American talent undermines our members' ability to compete and hampers economic growth.

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Despite providing a median annual salary exceeding $89,000, more than 500,000 computing jobs remain unfilled in America. With just 65,000 U.S. college graduates earning computer science degrees each year on average, recent American graduates are filling a mere fraction of the available computing jobs. Moreover, the number of computer and information technology occupations is projected to grow 11 percent from 2019 to 2029, much faster than the average for all occupations in the United States—with the number of software developing jobs expected to grow by 22 percent.

This problem is not exclusive to the private sector. Cyberwarfare is an increasingly prevalent threat, and federal cybersecurity specialists are more important than ever. The Center for Strategic and International Studies projects that only 1,000 security specialists in the United States have the specialized skills to operate effectively in cyberspace compared to a need for 10,000 to 30,000 personnel, and a project by the National Initiative for Cybersecurity Education found 507,924 cybersecurity openings across the country from June 2019 to May 2020.

The private sector can help, but policymakers must create an environment in which employers and educators can equip those in our current and future workforce with the skills needed to fill and succeed in these positions. Access to and removing barriers from resources to attain these jobs constitutes a huge part of this effort.

To Support the Growth and Potential of the Dynamic American Workforce, We Urge Congress To:

✅ **Support the broadband adoption provisions in the bipartisan infrastructure bill (H.R. 3684):** Specifically, the infrastructure bill authorizes a Digital Equity Capacity Grant program as well as a Digital Equity Competitive Grant Program, which together would invest nearly $2.5 billion in efforts to promote digital equity and inclusion. The capacity grants would support states' digital equity plans, in which recipient states create measurable needs and goals for the availability of broadband technology, digital literacy, and availability and affordability of smart devices. And the competitive grants would support state efforts to close those gaps through training and workforce development programs, subsidize hardware and software for covered populations, and publicly accessible computing centers. A final infrastructure package should include provisions like these to ensure that broadband helps Americans across the nation access work, education, healthcare, and other important opportunities.

✅ **Pass legislation like the CHampioning Apprenticeships for New Careers and Employees in TECHnology Act (CHANCE in TECH Act, H.R. 720/S. 2227, 117th):** This legislation would require the Department of Labor to enter into competitive contracts with intermediaries that manage apprenticeship programs on behalf of employers. By enabling would-be employers to streamline their apprenticeship processes, which many employers need to fully train developers and others, the CHANCE in TECH Act would help connect workers to the employers that need them.

✅ **Appropriate at least $250 million to the science, technology, engineering, and math (STEM) Master Teacher Corps (MTC) program:** Our schools' failure to provide computer science courses is rooted in part in a lack of training and professional development for teachers to attain an advanced formal education in teaching computer science. Congress must adequately resource the STEM MTC program to prepare our kids for the jobs of the future and maintain our position as the global leader in tech-driven industries.

✅ **Pass the Computer Science for All Act (H.R. 3602, 117th):** This legislation would authorize $250 million in new grants to support a diverse tech pipeline in pre-K through grade 12 education. By investing in low-income and underserved communities, the diversity gap in science, technology, engineering, art, and math (STEAM) careers can begin to be bridged while encouraging the growth of the next generation of tech talent.