

Computing...Where the Jobs Are

By [NAME] and [CONSIDER CO-AUTHORING WITH EDUCATOR, SUPERINTENDENT OR BUSINESS LEADER]

Computers are everywhere. They're in our pockets. They're on our walls. They're in our cars. They're a critical piece of our infrastructure, from power grids to traffic lights to the inner workings of our financial markets. And all of these computers have one thing in common. They depend on software to tell them what to do.

But who exactly is going to write this software?

Considering how fast our world is being transformed by technology, you might expect the number of students studying computer science in K-12 education today to be at an all-time high. You'd be wrong. In fact, fewer students are studying computer science, and fewer schools are teaching it, than a decade ago.

At a time when demand for skilled programmers has never been higher, we're turning out fewer computer scientists. Even in this time of high unemployment, thousands of jobs, many of them right here in [INSERT STATE/CITY], are going unfilled for a lack of enough individuals with the right skill sets.

Why is this? And how can we address it?

The problem begins in our middle and high schools. Nine out of ten of our schools do not offer computer programming classes. In [SCHOOL DISTRICT] last year, only [NUMBER] students took the college-level Advanced Placement (AP) Computer Science Exam, just [%] of all students who took an AP in our state. We're simply not doing enough to prepare or encourage our students to pursue these high-paying, vital careers.

Nearly all major computing innovations were invented here in this country, but we're at risk of losing that leadership if we don't do something now.

We need to make some changes.

[OPTIONAL FOR STATES WHERE THIS APPLIES]

One positive change would be to allow rigorous computer science courses to satisfy a high school math or science graduation requirement. In [INSERT STATE], computer science courses are electives. Given academic demands, students cannot afford to take elective computer science courses. And making this change can have a big impact. In states where computer science courses count toward graduation requirements, courses are fifty percent larger with much higher rates of participation by underserved minorities than states that treat computer science as an elective.

We should also work with students at a young age to spark their interest in computer

science and coding. Our children should not just know how to use apps and play video games – they should know how to create them. Children can learn the basics of coding as early as the second grade.

We need to recruit more computer science teachers and encourage professional development within their field. Today there are many online resources that can help teachers access and keep up to date with the latest technology for their students.

According to the Bureau of Labor Statistics, by 2020, there will be 9.2 million jobs in STEM fields. Half of those jobs—4.6 million—will be in computing or information technology. And computer science is increasingly foundational knowledge for the 21st Century. Who will fill these jobs if our children are not given the opportunity to gain the skills needed?

This week, December 9–15, is Computer Science Education Week. In schools throughout [STATE], our students will be participating in a national Hour of Code, demystifying the subject of computer science and hopefully whetting their appetites to go on and learn more. I will be joining them, and I invite you to join in as well. Everyone should learn how to code. Visit www.csedweek.org to learn more and get started. And support our efforts to bring computer science to more schools in [STATE].