



# Computer Science In K-12 Classrooms

June 14, 2016

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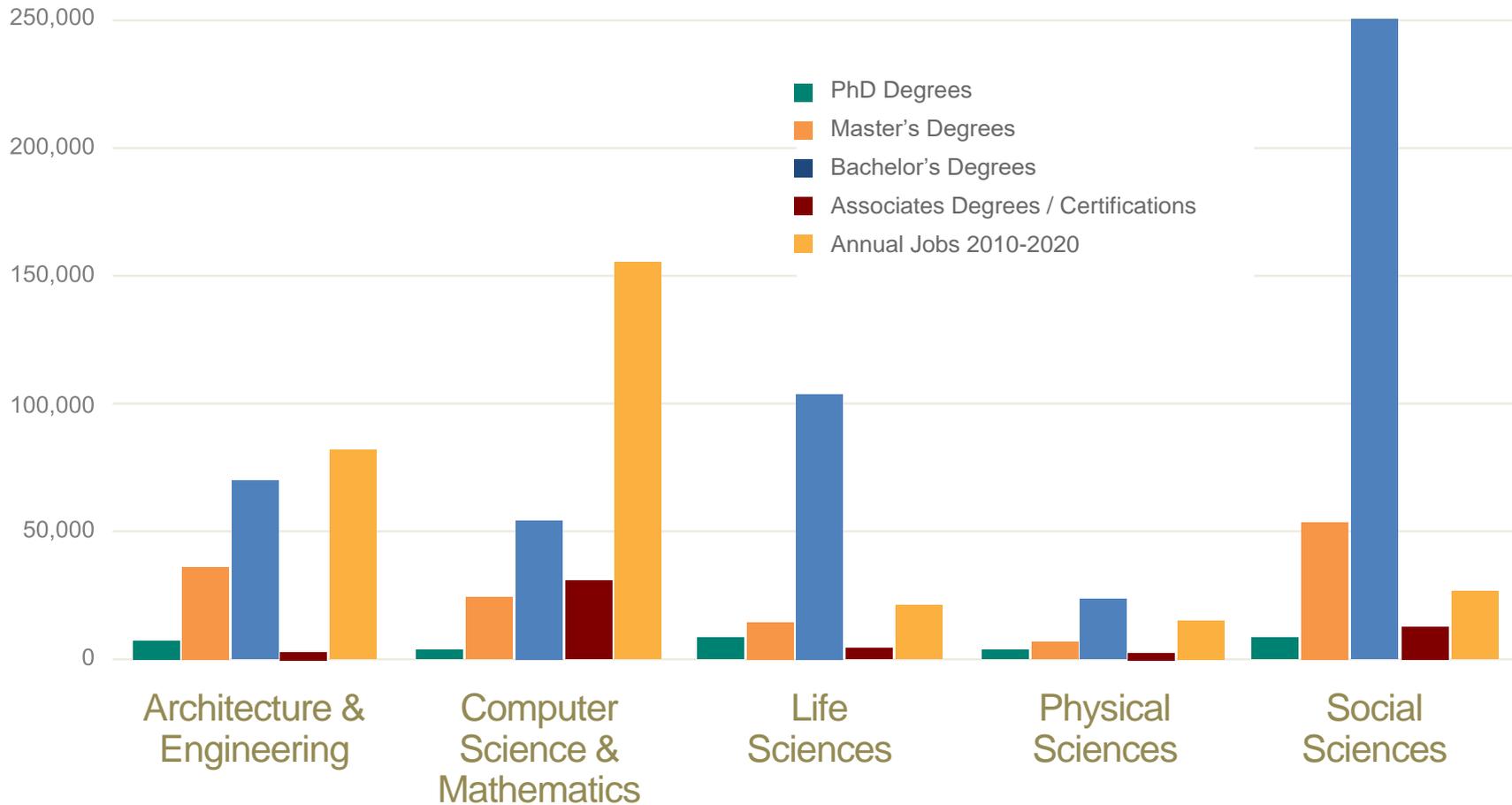
## Why Focus On Computer Science?

- Along with Science, Technology, Engineering, and Math (STEM) more generally, computer science (CS) is an emerging area of focus in Federal and State education and workforce policy.
- CS is explicitly mentioned in the Every Student Succeeds Act (ESSA), which reauthorizes the Elementary and Secondary Education Act (ESEA), and the President's FY17 budget request included a major new program focusing on CS education.
- Only one out of four K-12 schools teach CS; leaving 75% of today's students without the foundational skills that would:
  - Help them **thrive** in the workplace,
  - Ensure America remains **competitive** globally; and
  - Guarantee American **economic prosperity and security** in the decades ahead.



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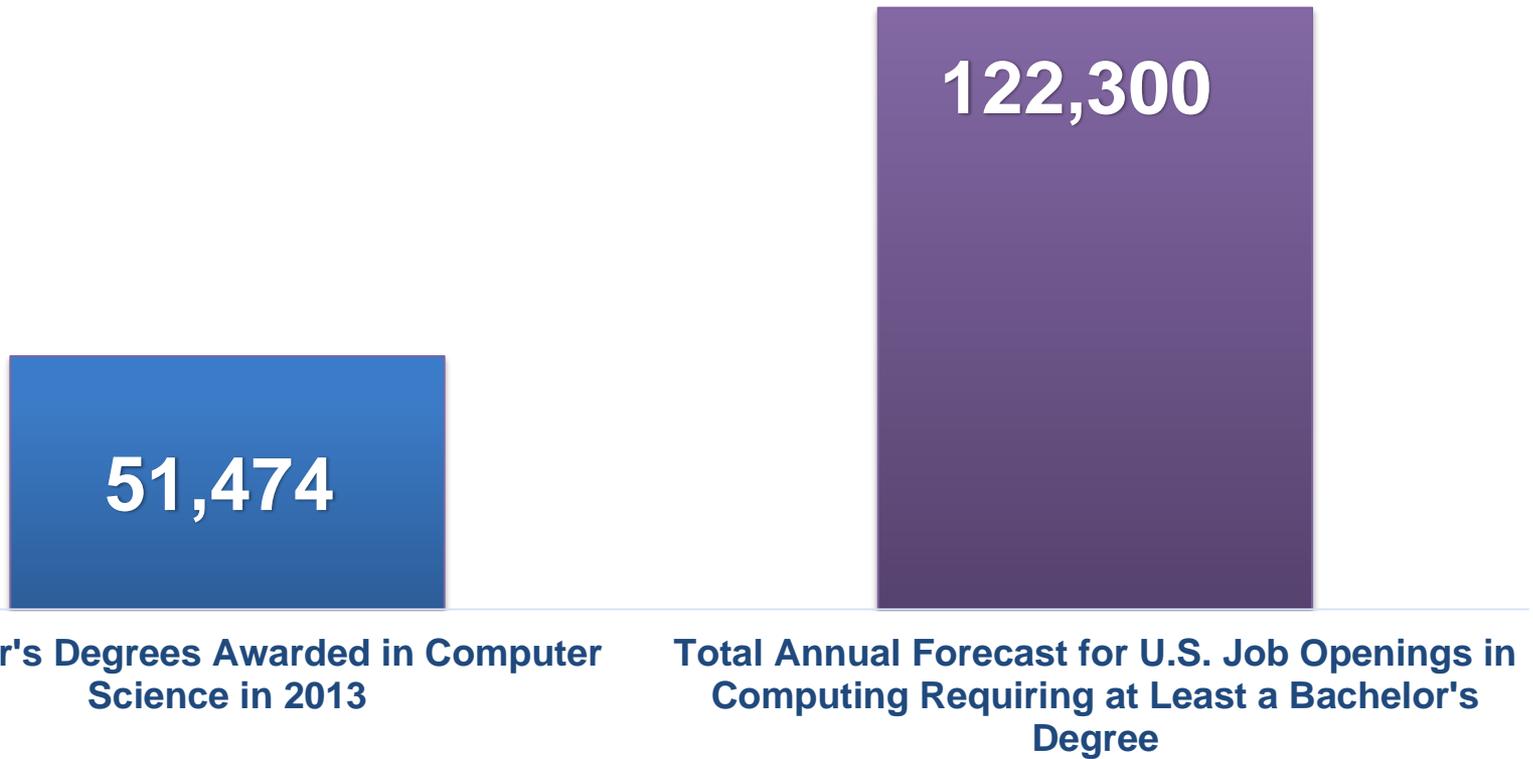
Where STEM Jobs Will Be: Degrees vs. Jobs Annually





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Graduation Rates Not Keeping Up With Job Creation



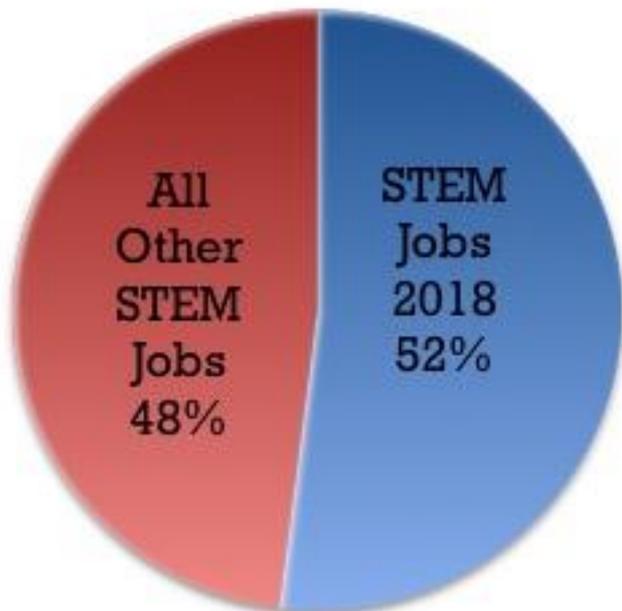
Source: Graduation numbers based on trends from IPEDS 2010-2011 Computer Science Degrees. Forecast job openings based on U.S. Bureau of Labor Statistics forecast of 1.22 million for 2010-2013.



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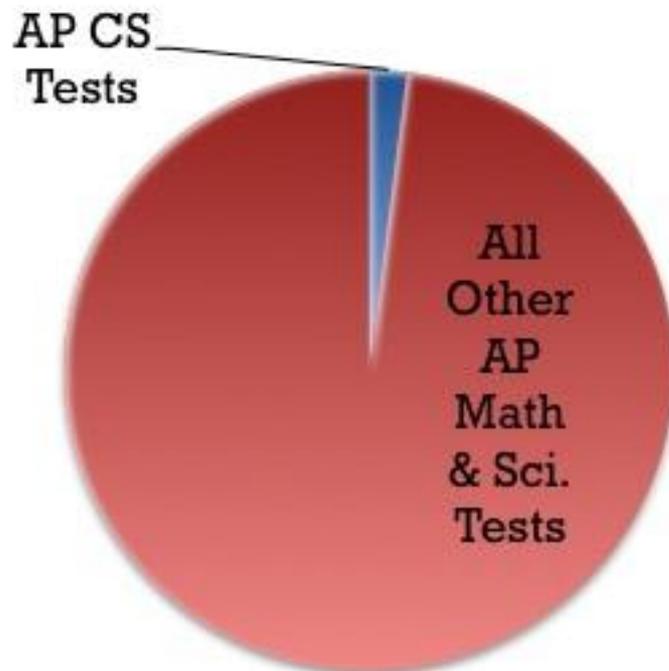
## A Numbers Crisis

STEM Jobs 2018



Source: Anthony P. Carnevale, Nicole Smith, Michelle Melton. "STEM," Georgetown University Center on Education and the Workforce (October 20, 2011).

AP Tests: 2012



Source: "AP Program Participation and Performance Data 2012, National Summary," The College Board (2013).

Even though computing occupations will comprise over half of all STEM jobs in the U.S. by 2018, only 2% of all math and science AP tests taken last year were AP computer science.

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## Computer Science Policy Considerations

### ■ Diversity -

- Females represent 22% of AP CS A exam-takers, 17% of CS bachelor's degrees, and 23% of people employed in computing occupations.
- People of color represent 13% of AP CS A exam-takers (9% Hispanic, 4% Black), 17% of CS bachelor's degrees (9% Hispanic, 8% Black), and 14% of people employed in computing occupations (8% Black, 6% Hispanic).
- **K-12 Need** - students who take AP CS are six times more likely to major in computer science than those who do not, and this number is even higher for women and minorities.

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## The Computer Science Education Coalition (CSEC)

- CSEC is a broad based coalition of businesses and NGOs who want to expand access to CS education in K-12 classrooms across America.
- CSEC is represented by over 100 members, including:

 T-Mobile

 UNIVISION

 SILICON VALLEY  
LEADERSHIP GROUP

 EMC<sup>2</sup>

 IBM

 Google

 yelp

 amazon

 TechNet  
The Voice of the Innovation Economy

 TEACHFORAMERICA

 Microsoft

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## Where Do We Start?

- Fixing the CS skills gap is a national security, economic and social imperative.
- CS impacts **every field**, **every industry**, in **every state**.
- Initial infusion of **\$250 million** in federal funds could support as many as **52,500 classrooms** which can reach **3.6 million students** in the coming year.



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## How To Accomplish Our Goals

1. Organize coalition members and their supporters to reach out to **Members of Congress** and inform them why CS matters and why it is important for their constituents.
2. Be opportunistic and **amplify ongoing activities** across the country, including state initiatives, by leveraging innovative organizing tools such as online petitions and **persistent messaging** to create an echo chamber of support.
3. Educate by leveraging **cutting edge resources** at events and through **traditional and social media**.



Members of Congress



State Initiatives (e.g. events)



Traditional and Social Media



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## Success To Date

- Over **135** members of Congress from both sides of the aisle have signed onto letters in support of CS education funding being included in the FY 2017 budget.
- **28** Governors, education and nonprofit leaders, and business leaders, including household names like Mark Zuckerberg, Bill Gates, Jack Dorsey, and Jeff Bezos, signed an Open Letter to Congress urging them to support K-12 CS education – including over **130k** signatures via a Change.org campaign.\*

\*<https://www.change.org/p/offer-computer-science-in-our-public-schools-csforall>

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## U.S. Senate Appropriations Committee

- Last week, the FY2017 Labor, HHS & Education Appropriations Bill was cleared for Senate consideration and it was clear that there is growing support behind CS.
- At the full committee markup, Senators Steve Daines (R-MT), John Hoeven (R-ND), Jeff Merkley (D-OR), Lisa Murkowski (R-AK), and Ranking Member Patty Murray (D-WA) all spoke in support of CS (below l-r).



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## The CSEC Team



- **Erin Siefring, Chair of CSEC**, has spent over a decade working on and around Capitol Hill. Most recently, Erin was Chief of Staff for a member of the House of Representatives. In that role, she was responsible for supervising a staff of 12, developing and overseeing the member's policy and legislative agenda and office budget of over \$1 million and represented the member in speaking engagements.



- **Katie Whelan, Executive Director of CSEC**, has over 30 years of experience working in public policy and political campaigns, and has provided strategic counsel to clients in corporate and political affairs, designing and implementing electoral and fundraising campaign plans. Currently, Katie serves as an Of Counsel to the Dewey Square Group, a leading public affairs firm that specializes in public policy, communications and political campaigns.



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## CSEC Contact Information

- **Website:** <http://www.csecoalition.org/>
- **Facebook:** <https://www.facebook.com/csecoalition>
- **Twitter:** <https://twitter.com/CSECoalition>