



Computer Science for High School Workshop

Introduction and Resources for Teachers

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CS4HS.buffalostate.edu

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CS4HS, 2017-2018

Region	Organizations Funded
United States and Canada	27
Europe, the Middle East and Africa	28
Australia and New Zealand	27
China	25

Source: https://docs.google.com/document/d/1mf7AgJNFxrnFo8HC2_jlmlP78gB2S3fI4laKBMr2TtE/edit, 2018



- Began in 2012
- First Student Competition, 2013
- 25 new teachers participate annually
- Our Shared Success
 - 125+ teachers
 - 55+ Secondary Schools from WNY

Google is committed to supporting professional development of teachers through CS4HS

Global Impact since 2009

- 50,000+ Teachers
- 50 Countries
- 2,000,000 Students

Source: https://edu.google.com/computer-science/educator-grants/#?modal_active=none, 2018

Computer Science is Changing EVERYTHING
Agriculture Fashion Medicine Meteorology
Art Entertainment Social Media

<https://www.youtube.com/watch?v=QvyTEx1wyOY>

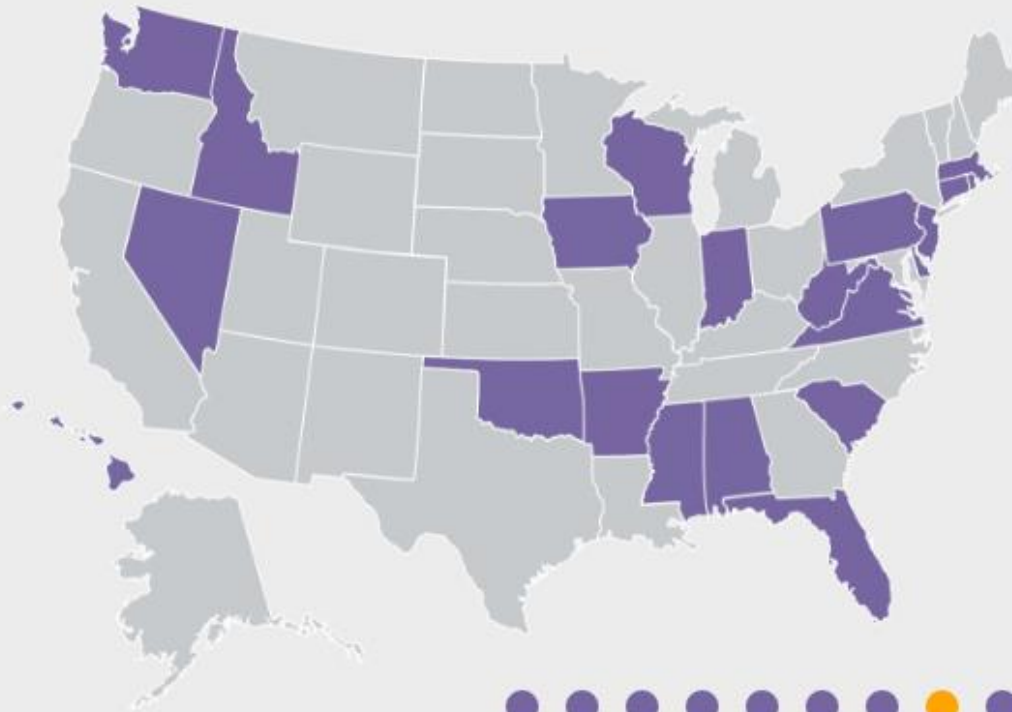
Great video presented by code.org

5:35 minutes

Source: code.org/promote, May 2016

Computer Science Standards By State

The state of K-12 computer science standards



Only 21 states have created K-12 computer science standards.

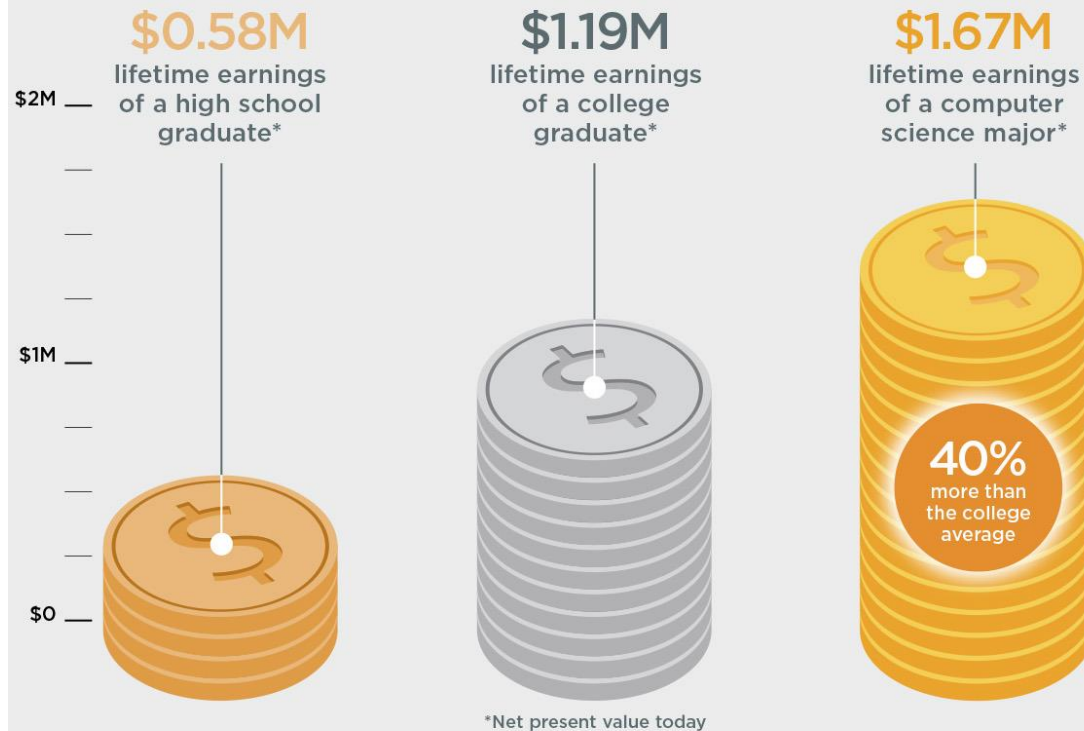
Momentum is building, but we still have a long way to go.

-  States with K-12 CS standards
-  States without K-12 CS standards



Source: code.org June 2018

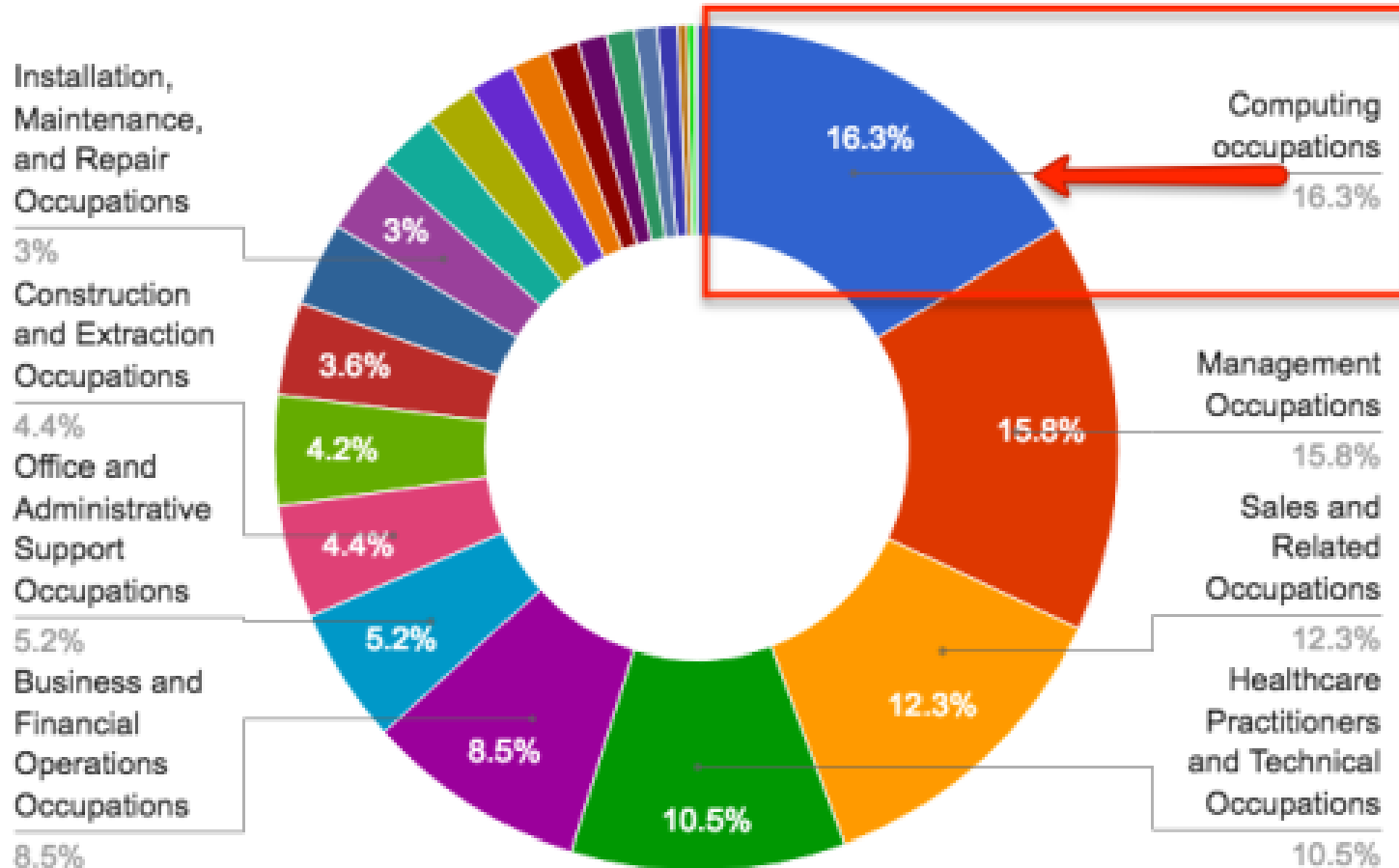
The value of a computer science education



A computer science major can earn 40% more than the college average.

Source: code.org/promote, May 2016

Largest Category of New Wages in the US



Source: code.org/promote, May 2016

Interactive Map Statistics for each state

<https://code.org/promote>



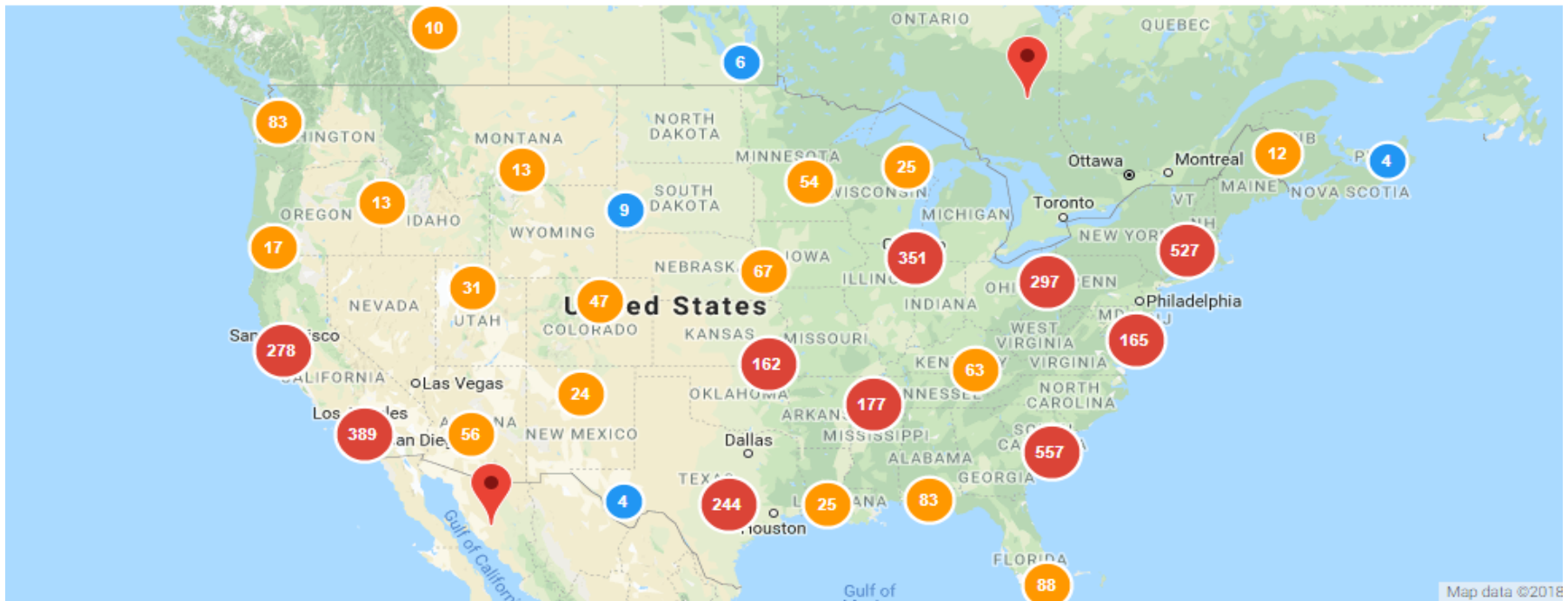
A few words from familiar visionaries

- <https://www.youtube.com/watch?v=nKlu9yen5nc>

5:44 minutes

CS First around the world

1,000,000+ students. 30,000+ classes. 75+ countries.



Source: <https://csfirst.withgoogle.com/en/home>, June 2018

Google's CS First

- Introduces Computer Science to students
- Promotes Computer Clubs
- Many activities provided
- Clubs and activities can be theme based
 - <https://csfirst.withgoogle.com/en/home>

Everything you need

CS First projects involve block-based coding using Scratch.

The CS First kit includes lesson plans and solution sheets for the teacher, as well as fun passports and stickers for the students.

EXPLORE CURRICULUM →



- Short, hour long activities
- Good for special events
 - Hour of Code
 - CS Education Week
 - Dec 3 – 9, 2018
- Make it a party atmosphere
 - Include families
 - Showcase themes
 - Partner with PTA activities



- Non-profit dedicated to expanding CS and to increase participation by women and minorities
- Organize Hour of Code campaign worldwide
- Provide leading curriculum for K-12 Computer Science students
- Generous donations from Microsoft, Facebook, Infosys, Google, Omidyar Network and many more

Vision: “Every student in every school should have the opportunity to learn computer science.”

Source: code.org/promote, May 2016

- *code.org*



<http://www.familycodenight.org/>

Source: code.org/promote, June 2017

- Opportunities for all ages
- 180+ Countries Participate
- 45 Languages Supported



<https://hourofcode.com/us/learn>

Resources are Endless

Video Library from Code.org

<https://code.org/educate/resources/videos>

Source: code.org/promote, May 2016

Tour of Google's South Carolina Data Center

Hosted by Google's Vice President of Data Centers

[https://www.youtube.com/watch?v=XZmGGA
bHqa0](https://www.youtube.com/watch?v=XZmGGA
bHqa0)

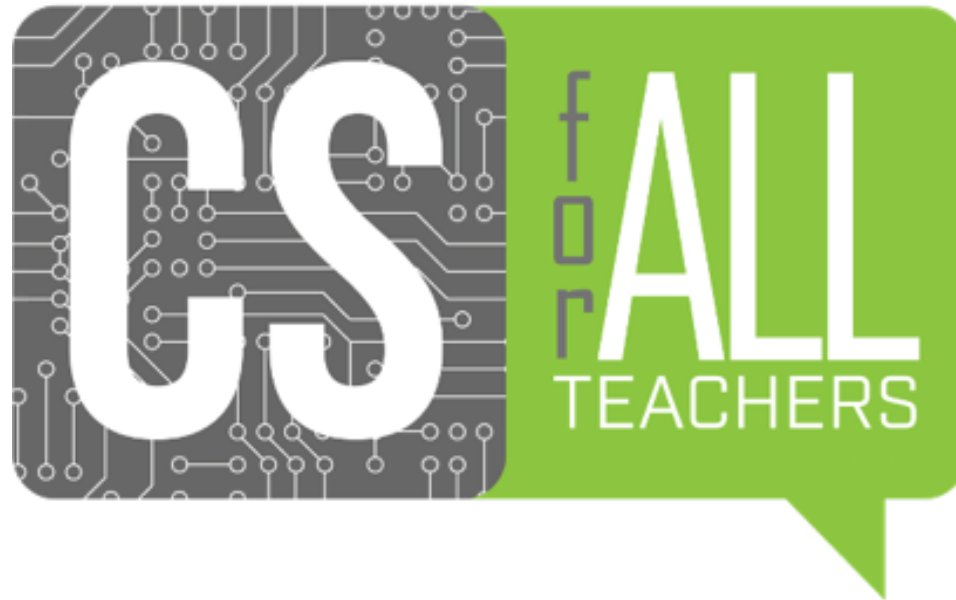
5:25 Minutes

Professional Organizations



<https://www.csteachers.org/page/Membership>

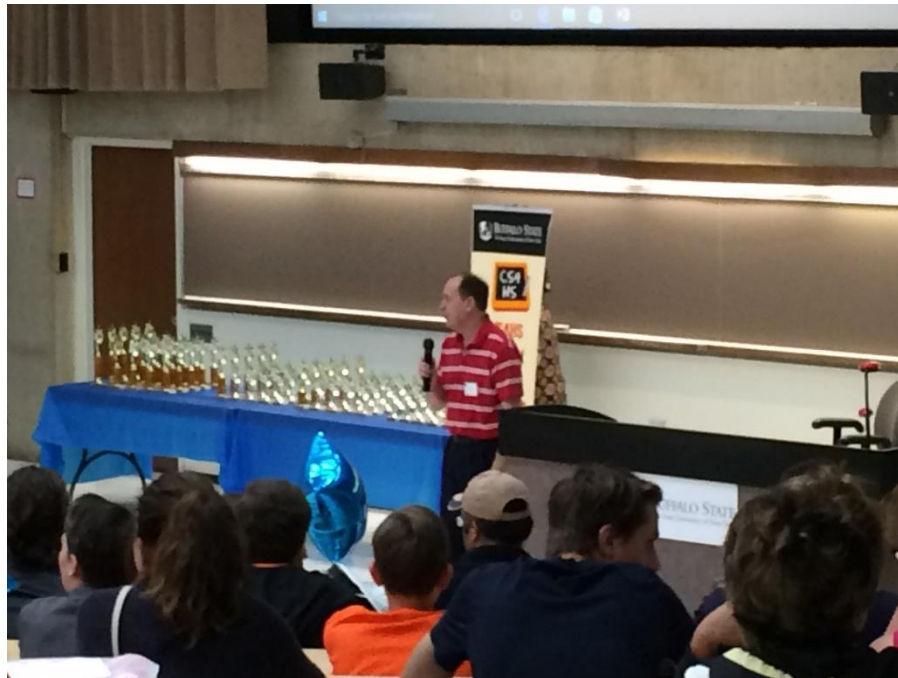
Professional Organizations



<https://csforallteachers.org/>

- Complete Training
- Start Computer Clubs
- CS4ALL WNY Conference
 - Friday, September 28, 2018
at SUNY Buffalo State
- CS Education Week Activities
 - Dec. 3 – 9, 2018
- CS4HS Spring Reunion 2019

- Showcase and Competition June 1, 2019, at SUNY Buffalo State
 - Includes \$100 Monetary Honorarium for each participating teacher



Every activity and all resources
presented are FREE!



Thank You!