



## **Are We There Yet?**

# **California's Journey to CS Education Equity: The Numbers and the Narratives**

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**CSEdWeek Webinar  
December 10, 2021**

# AGENDA

- Welcome
- Where Are We? The Landscape of CS in CA
- Amplifying Student and Teacher Voices
- Where Do We Go from Here?
- Ways to Take Action

# PRESENTERS



Rocío Michelle Hernández



Jean Ryoo



Alicia Morris



Sonia Koshy



Allison Scott



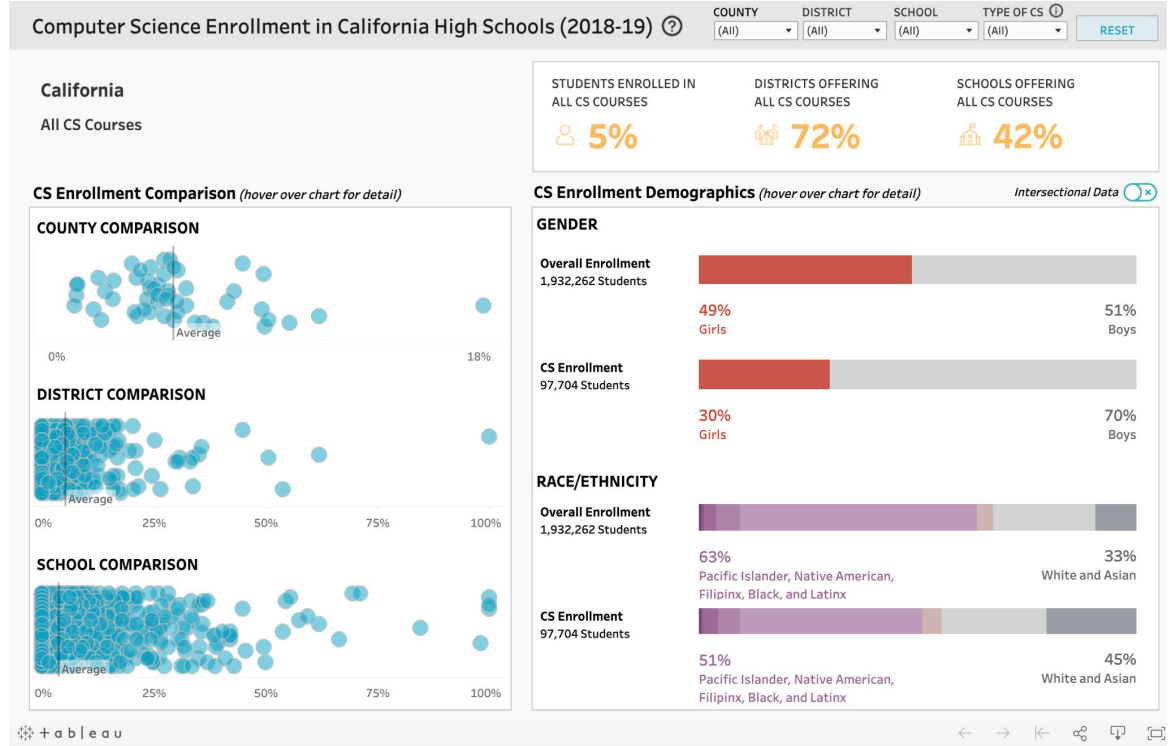
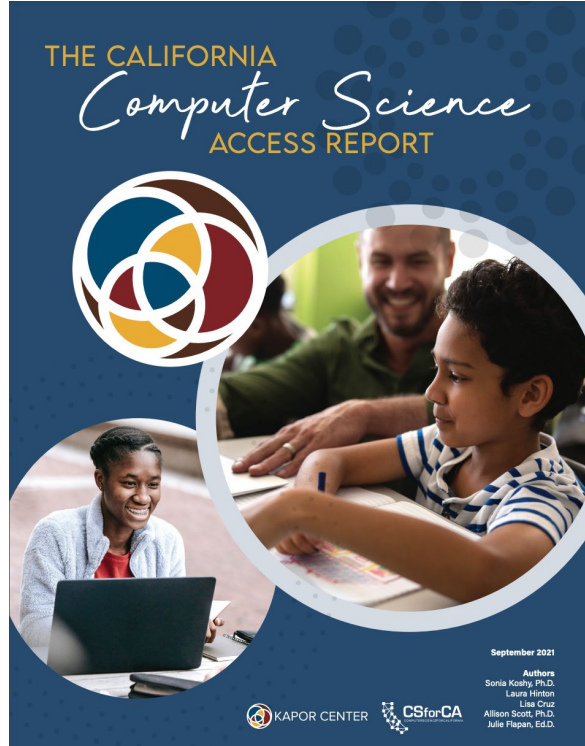
Julie Flapan



Abigail Joseph

# The Current State of CS in CA

# State of CS in CA



## THE DATA

**THE CALIFORNIA SNAPSHOT**

Out of 2596 schools serving grades 9–12 in California (in 2018–19):

42%

offer any CS

13%

offer AP CS

Out of over 1.9M students enrolled in grades 9–12 in California (in 2018–19):

5%

are enrolled in any CS

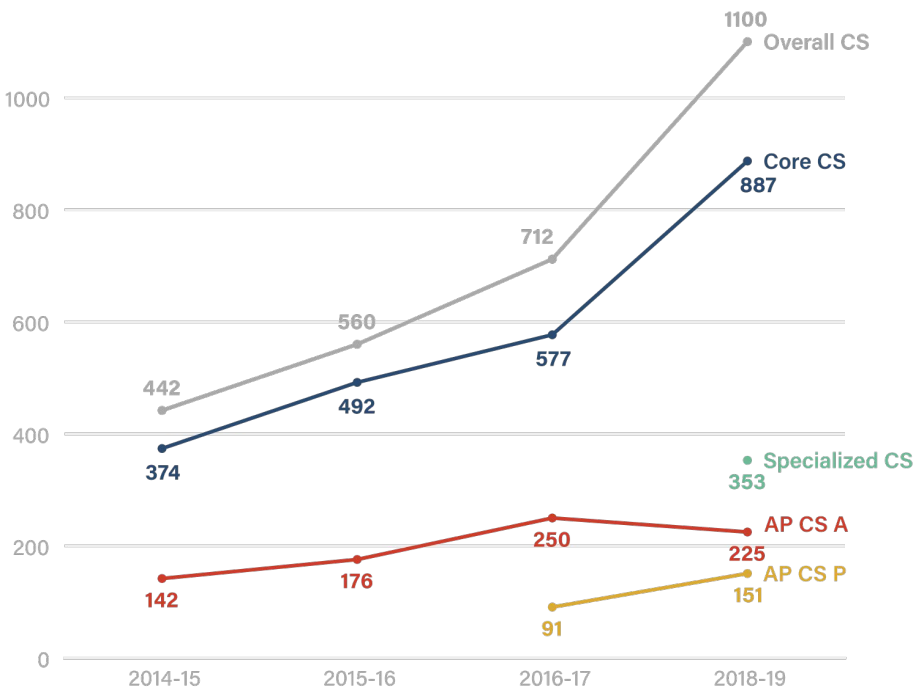
<1%

are enrolled in AP CS

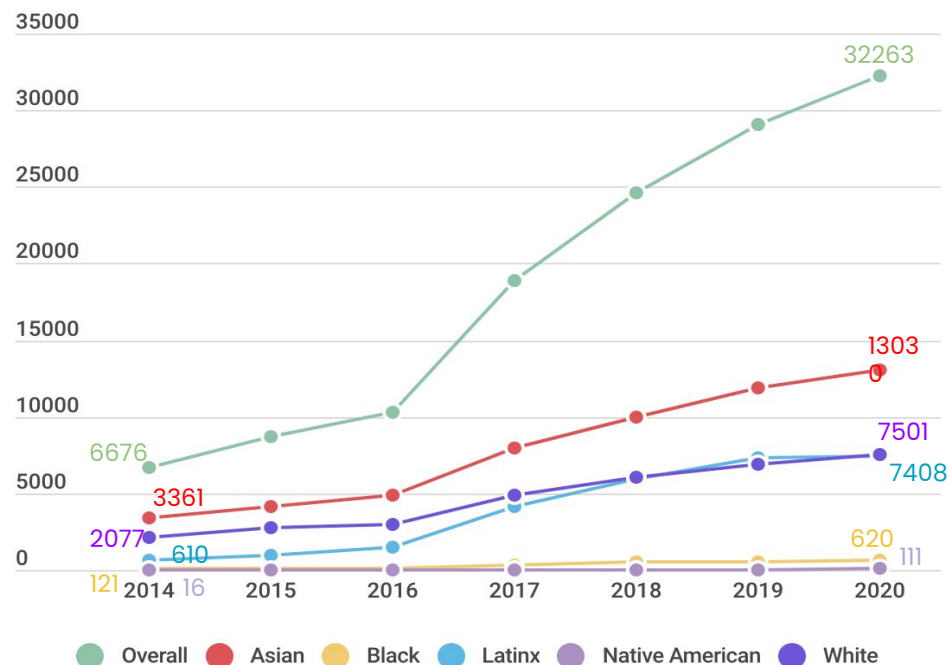
# THE CALIFORNIA SNAPSHOT

Over the past 6 years, CS access and enrollment have increased significantly...

CS Access in CA High Schools, 2018-19



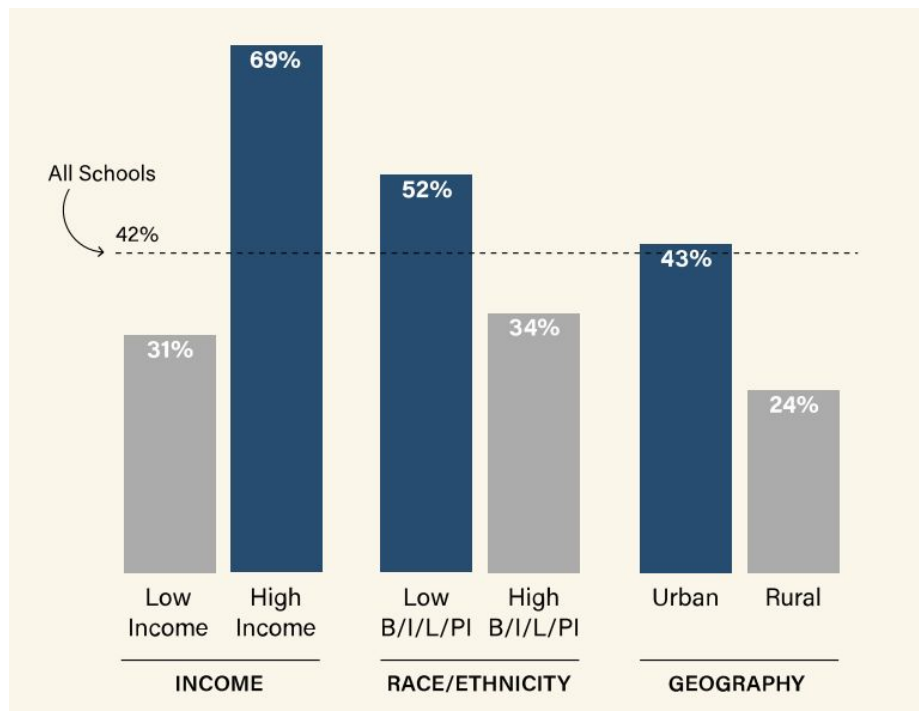
AP CS Enrollment by Race, 2018-19



# THE CALIFORNIA SNAPSHOT

Yet, disparities in access remain...

CS Course Access by School Community Served, 2018-19



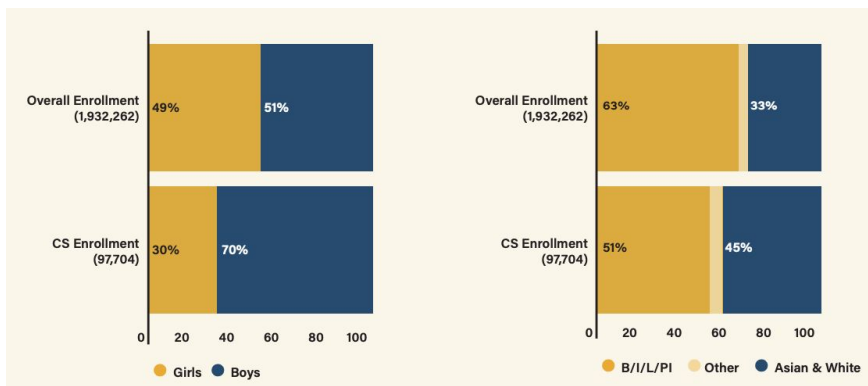


## THE DATA

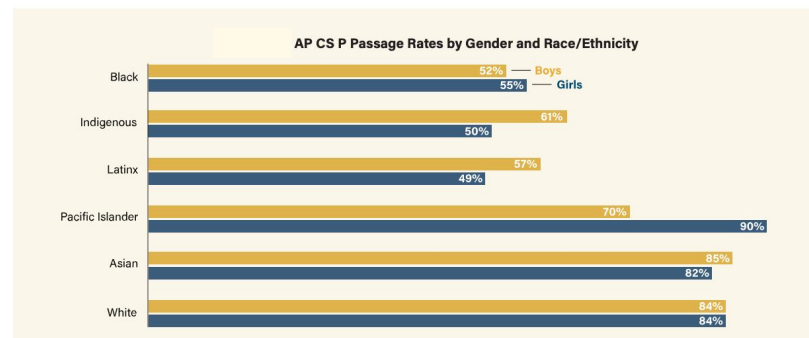
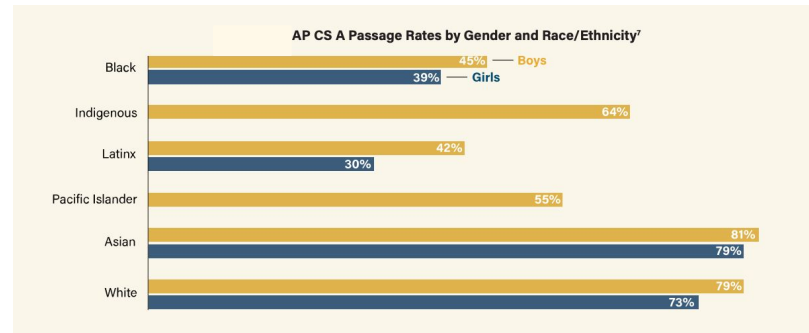
# THE CALIFORNIA SNAPSHOT

...and disparities in enrollment and success continue to arise

Gender & Race/Ethnicity Enrollment in All CS Courses, 2018-19



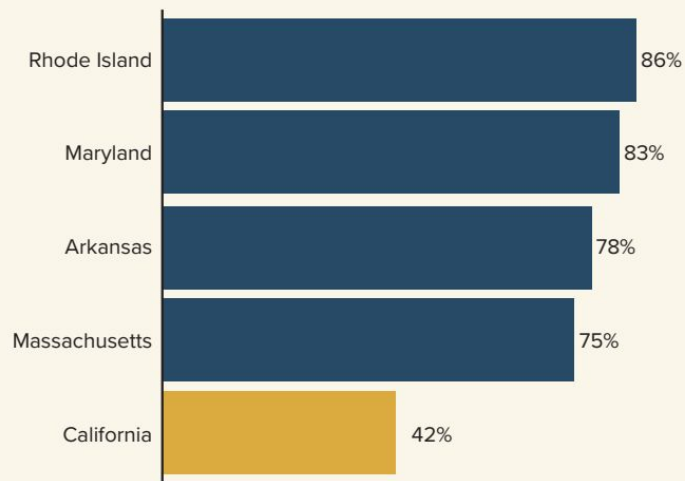
Gender & Race/Ethnicity AP Passage Rates in CA, 2018-19



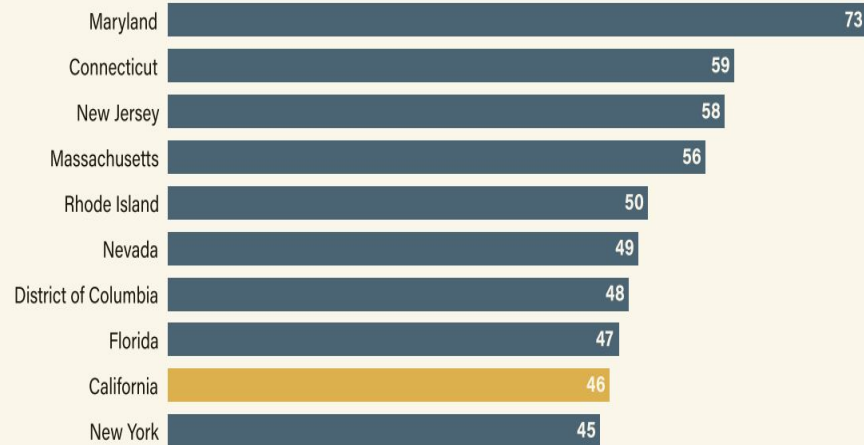
## THE DATA

# HOW CALIFORNIA COMPARES

Top States in Percent of High Schools Offering CS Courses in Comparison to California



Top 10 State Rankings in AP CS Test Takers Per 10,000 K-12 Students (2019)



# **CSforCA IS A MULTI-STAKEHOLDER COALITION**

## **Advocating for high quality opportunities to teach and learn computer science in K12 public schools so all students are prepared for college, careers and community engagement**



## CSforCA Mission:

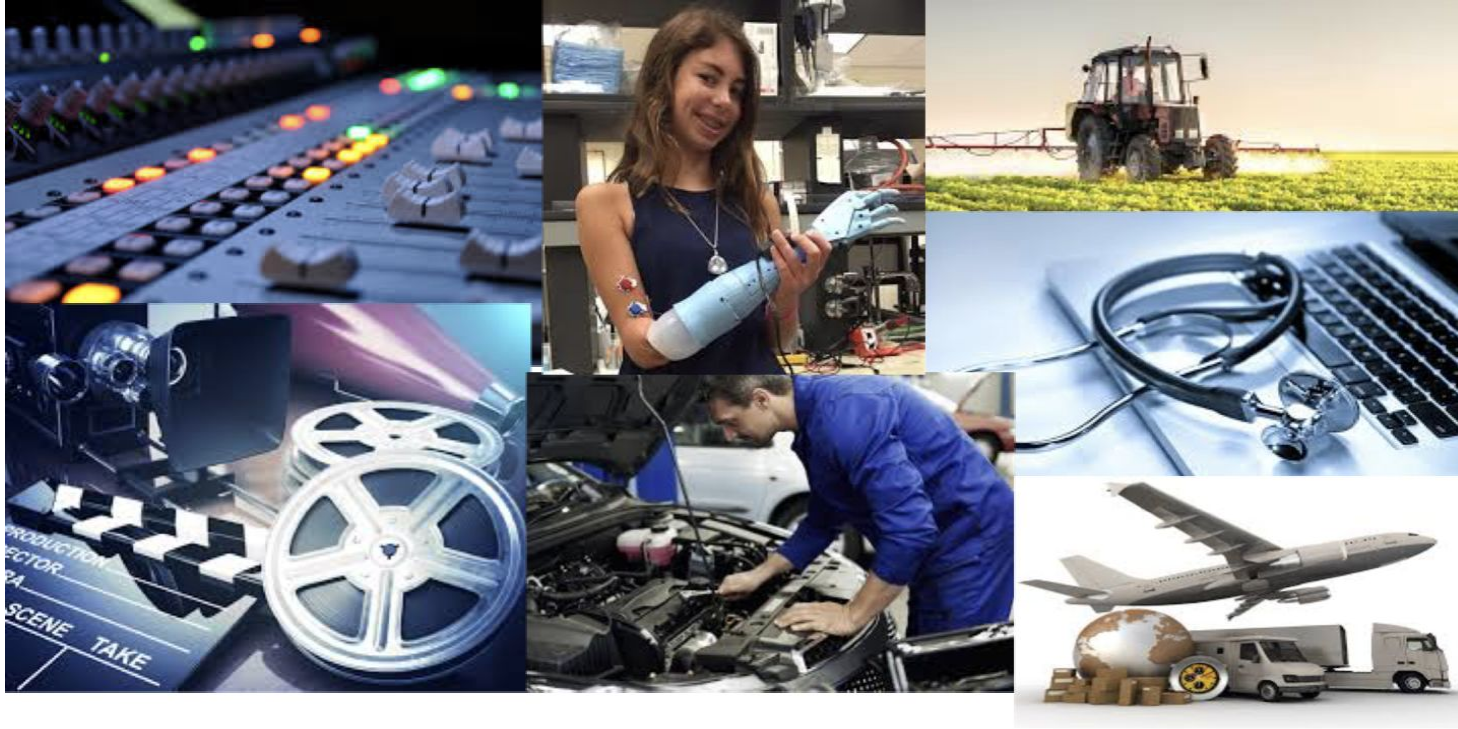
Ensure equity and access to high quality teaching and learning opportunities in computer science in California while prioritizing the needs of low-income students, students of color, and girls.

## CSforCA Goal:

By the year 2025, all schools in CA will provide all students with access to, and engagement in, high quality computer science that prepares them for college, careers and community engagement.







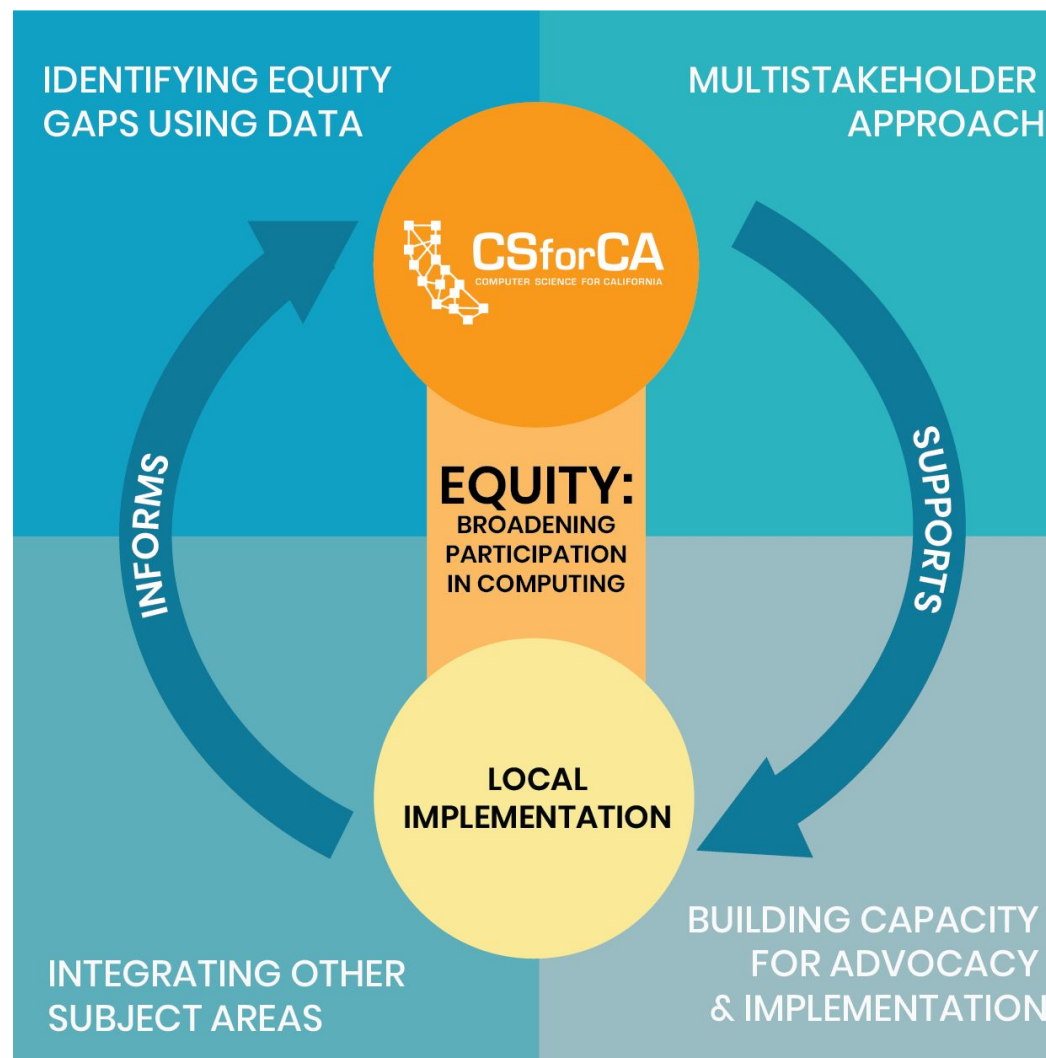
“Today’s students need to understand the digital world they live in, just as they take science to understand the natural world and take history and social studies to understand the cultural and political world.

- CA SBE Member and CS Liaison Trish Williams

**CSfor CA COALITION  
WORKING GROUPS**



# CSforCA THEORY OF ACTION



## RESEARCH AND PRACTICE TO INFORM POLICY

***This is a marathon, not a sprint***



- 2008** ■ *Stuck in the Shallow End: Education, Race and Computing* by Margolis, Estrella, Goode, Holme, & Nao
- 2013–2016** ■ Multi-stakeholder coalition ACCESS began and evolved into CSforCA
- 2016** ■ CS Supplementary Authorization for Teachers
- 2014–2018** ■ Computer Science Strategic Implementation Plan supported by Governor, Superintendent of Public Instruction, Legislature, SBE
- 2017–2019** ■ Computer Science Education Standards developed and approved by SBE
- 2019** ■ University of California recognizes CS as an advanced science toward A–G admission eligibility to UC’s
- 2019** ■ Governor’s Budget includes funding for PD, CS Coordinator, and broadband
- 2018–2020** ■ SCALE–CA Research Practice Partnership develops CS Equity Implementation Guide and Administrator Workshop piloted at “Summer of CS” PD Week



**Every High School  
Offer Computer  
Science**



**Pre-service  
Teacher Incentive  
Grants**



**Policy  
Priorities  
2022**



**Computer  
Science Subject  
Matter Project**



**Ongoing Funding  
to Support CS**



# COMPUTER SCIENCE SUMMER PROFESSIONAL DEVELOPMENT WEEK

Research-based regional model to build systemic capacity for equitable, scalable, and sustainable computer science education in California

## BUILDING EDUCATOR CAPACITY TO IMPLEMENT EQUITABLE CS



### ADMINISTRATORS

Administrator Workshop  
with CS Equity Guide  
for Implementation



### TEACHERS

Research-Based Curriculum  
Professional Learning  
Aligned with Standards

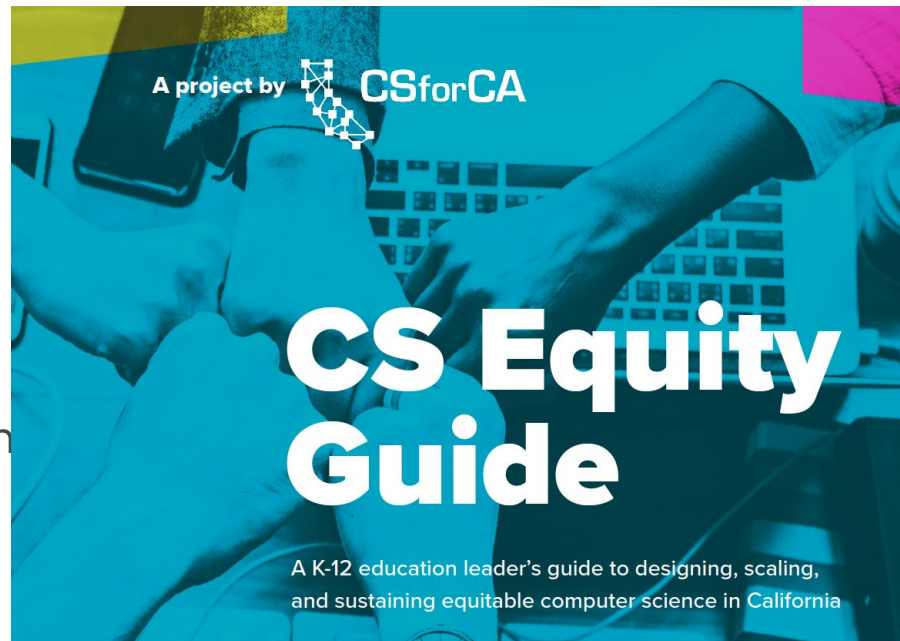


### SCHOOL COUNSELORS

National Center for Women in IT  
(NCWIT)  
Counselors for Computing

## IMPLEMENTATION BY ADMINISTRATORS, FOR ADMINISTRATORS

- Program design & development
- Student recruitment
- Classroom culture and structure
- Preparing & supporting teachers
- Funding
- Family, community, & industry partnerships
- Extended learning time opportunities



**[CSforCA.org/CSEquityGuide](https://CSforCA.org/CSEquityGuide)**

Examine your county's and district's CS education equity gaps using the **CSforCA data tool** and allocate resources to areas with greatest need.

**CS FOR CA**

**INTERACTIVE DATA TOOL:**

How does your community compare? Use our interactive data tool to find out.

**GET THE DATA**

**57%** of 492 districts offer CS

**40%** of 1,727 schools offer CS

**3%** of 1,822,746 students are enrolled in CS

**Gender**

Female Students: 49%  
Male Students: 51%

**Race/Ethnicity**

White and Asian Students: 34%  
Underrepresented Students: 64%

**Overall Enrollment**  
1,822,746 Students

**CS Enrollment**  
53,605 Students

**CSforCA**

Computer Science Enrollment in California High Schools (2018-19) ?

COUNTY: (All) DISTRICT: (All) SCHOOL: (All) TYPE OF CS: (All) RESET

**California**  
All CS Courses

STUDENTS ENROLLED IN ALL CS COURSES: 5%

DISTRICTS OFFERING ALL CS COURSES: 72%

SCHOOLS OFFERING ALL CS COURSES: 42%

**CS Enrollment Comparison** (hover over chart for detail)

**COUNTY COMPARISON**

**DISTRICT COMPARISON**

**CS Enrollment Demographics** (hover over chart for detail) Intersectional Data

**GENDER**

Overall Enrollment: 1,932,262 Students

49% Girls  
51% Boys

**CS Enrollment**  
97,704 Students

30% Girls  
70% Boys

**RACE/ETHNICITY**

Overall Enrollment: 1,932,262 Students

<https://csforca.org/the-data>

# **Amplifying Student and Teacher Voices**

# **Listening to the Voices of Students & Teachers: Narratives, Not Just Numbers**

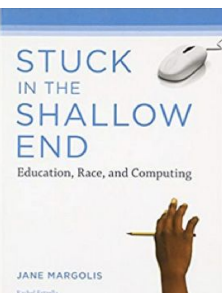


**Rocío Hernández  
(LAUSD graduate)**



**Alicia Morris  
(LAUSD teacher)**





# Research-Practice Partnership

BILL & MELINDA GATES foundation

Los Angeles & Mississippi

Key Partners: Takeria Blunt; Stephanie Bundle; Brittany Cohen; Cynthia Estrada; Shelly Hollis; John Landa; Jane Margolis; Alicia Morris; Vic Pacheco; Je'Monda Roy; Jean Ryoo; Tiera Tanksley; Natascha Woods; Wei Wei.



# Amplifying Students' Voices & Perspectives

## Majority Urban Latinx School District



ENGAGEMENT



AGENCY

## Majority Rural African American Schools



IDENTITY



# **Where Do We Go From Here?**

## **Scaling and Sustaining Equity in CS**

# Where Do We Go From Here?

## Scaling and Sustaining Equity in CS



## 5 ACTIONS YOU CAN TAKE TO INCREASE EQUITY IN CS IN CA

1. **Replicate** Summer of CS in your region to bring professional learning and support to teachers, counselors, and admin.
2. **Analyze** CS education equity gaps in your school or district using the **CSforCA data tool**.
3. **Advocate and inform** your school board, instructional leaders, and elected officials to offer CS and build into LCAPs.
4. **Connect** with parents/families and community-based orgs to build demand and encourage students to take CS.
5. Subscribe to [www.CSforCA.org](http://www.CSforCA.org) **newsletter** to stay informed about CS education opportunities and follow **@CSforCA** on twitter for latest updates on computer science in California.

# Stay Informed about equity in CS in California!



[www.CSforCA.org](http://www.CSforCA.org)

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