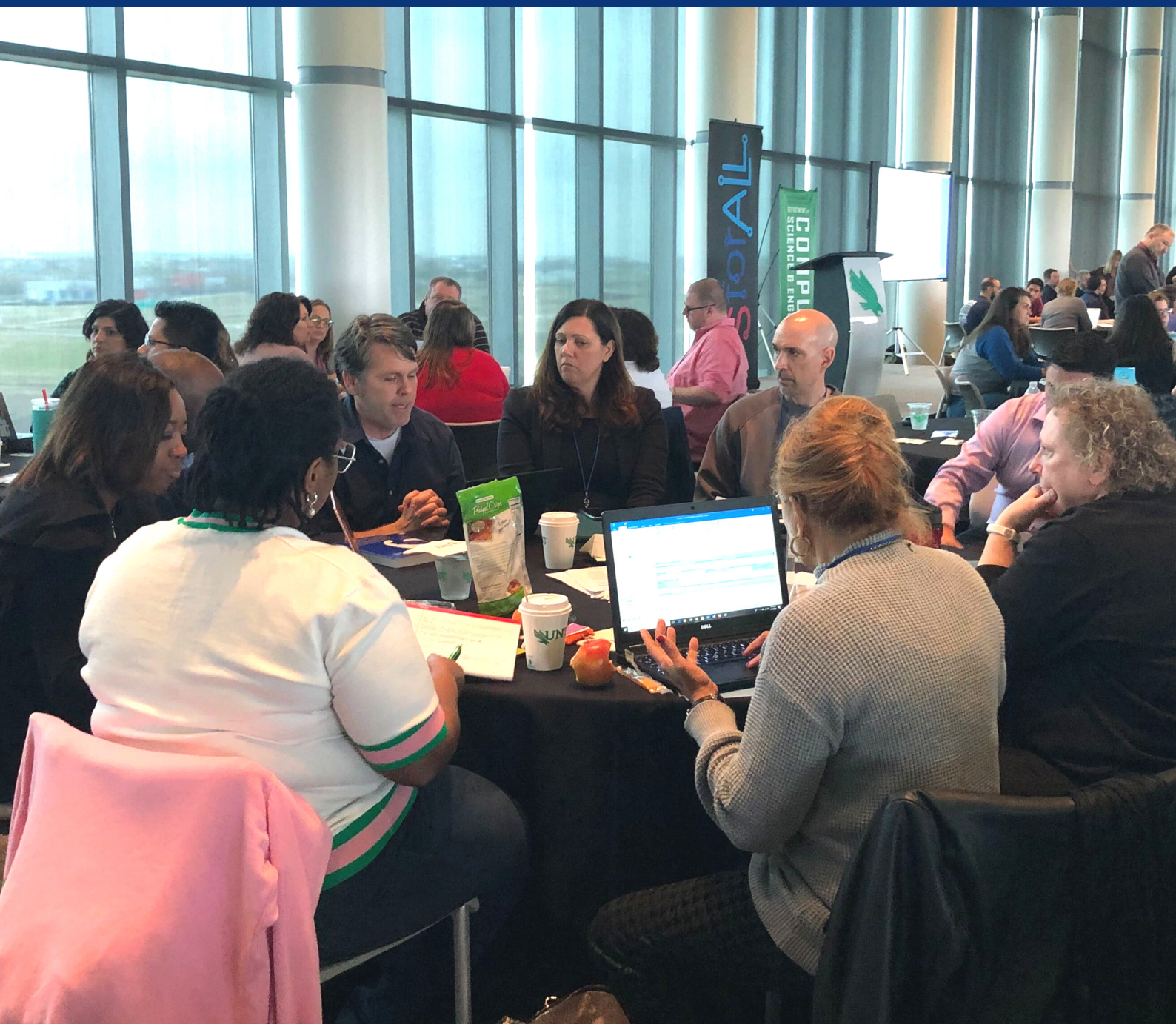


# CsforALL

## 2021 : YEAR IN REVIEW



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# A LETTER FROM OUR EXECUTIVE DIRECTOR



2021 was a year of hope, challenges, and increasing awareness of the shared and unique challenges faced by communities across the US. Every day at CSforALL we continue to be inspired by the dedication, inventiveness, and pride educators and administrators found in supporting youth, and I am so honored to share this summary of our work in 2021.

At a time when educators and learners were struggling to find connection again, to inhabit shared spaces again, we witnessed computer science bringing moments of empowerment and discovery to classrooms. The twitter video of a working robot in an elementary classroom, the creation of an app for the Congressional App challenge that addresses a community problem, or the use of data to highlight community challenges all represented the power and joy CS education can bring. Unfortunately, our systems are still behind. In 2021, we crossed the halfway point with data showing 51% of schools in the US now teach computer science, but that leaves a long way to go for the other 49%. We also measured the effects of Covid on CS education, and saw many schools reporting a decrease in classes and opportunities for youth.

At CSforALL, this renewed our commitment to community-based planning and capacity building for equity. At every level, whether it be state or federal policy, school district implementation, or community working groups, we will build capacity in local leaders and institutions in order to advance the mission of CSforALL. We also look to the future, working on emerging topics like artificial intelligence and data science education, and encourage the community to make commitments to take action. After 5 years of commitments, CSforALL has now recorded intent for over 100 million learning opportunities for youth and educators through our commitments program, and celebrated that work at annual CSforALL Summits.

As we move into 2022, we ask the question “What’s Next?”. We will continue to support strategic planning at the state, community, district, or school level. We will work with partners to understand our landscape of implementation and research, and we will continue to raise awareness of the amazing work our members and community are doing in service of computer science education and equity. I look forward to seeing you at CSforALL activities throughout the year and hearing about the progress you make every day.



Sincerely, Leigh Ann DeLyser  
Executive Director, CSforALL



# A WORD FROM SIEGEL FAMILY ENDOWMENT



At Siegel Family Endowment, our mission is to understand and shape the impact of technology on society. That's why our partnership with CSforALL is so critical. Profound technological change has radically altered the way we live, work, and learn and computational literacy and high-quality computer science education are integral to the prosperity of our society.

CSforALL masterfully and intentionally landscapes growth opportunities in computer science education for K-12 students. In addition, the organization has built a coalition of content providers, education associations, researchers, and supporters to help schools ensure computer science education is rigorous, inclusive, and sustainable. We are a proud partner in supporting CSforALL's work and advocating for computer science as a key aspect of K-12 education.

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

[@siegelendowment](https://twitter.com/siegelendowment)



Katy Knight  
Executive Director & President  
Siegel Family Endowment





The CSforALL membership aims to **engage, grow and connect the CSforALL community members at local, regional and national levels** to deliver greater collective impact that's measurable, data driven and sustainable in advancing CS education for all. Through the membership model CSforALL aims to:

Build a cohesive approach to membership to support the program in achieving their impact goals by leveraging the member community

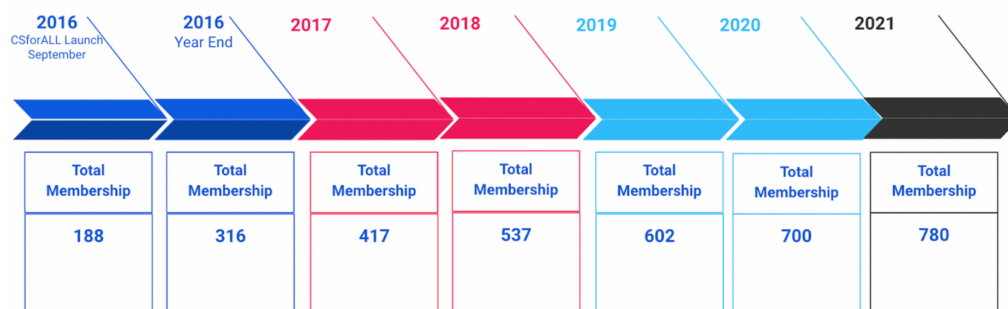
Continue to grow the CSforALL community by recruiting, engaging and partnering with diverse CSEd organizations from grassroots to national level as CSforALL members

Ensure that we are fostering a highly engaged and connected community

Stay informed on the pulse of the CS community and remain as the hub of the CSforALL national movement

Develop and maintain a robust and efficient database of the CSforALL members for data driven decision making, resource sharing and partnership building

**CSFORALL'S MEMBERSHIP IS AT THE CORE OF CSFORALL THAT PROVIDES A COLLECTIVE PATHWAY FOR ORGANIZATIONS, CORPORATIONS AND EDUCATION ASSOCIATIONS WHO HAVE A SHARED INTEREST IN CS EDUCATION TO **LEARN, ENGAGE, AND COLLABORATE.****



**780**  
Total Members  
in 2021

## What It Means to Be a CSforALL Member

- Connect and learn about CSforALL and opportunities through our monthly newsletter, community calls and social media.
- Share their work & expand their network with the CS community using our member directory, commitments, newsletter & media.
- Engage with us through our various internal programs (SCRIPT, JROTC, Ecosystems, RPP, Commitments, etc.).
- Access and use our digital infrastructures (AlignCS, Member Portal, Commitments Visualization, etc.) to support their organization goals.

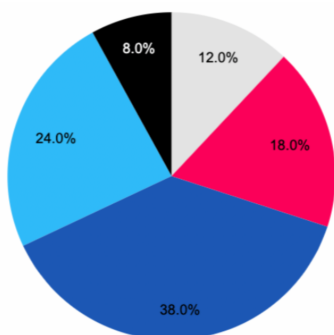


## Membership and the CSforALL Community

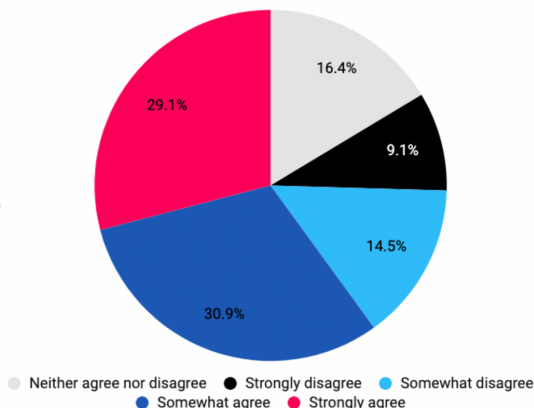
2021 was a big planning year to create opportunities for CSforALL participants that hadn't been considered members in the past to join our member community. The focus was on developing membership as a program and begin the formal registration of all CSforALL stakeholders as a CSforALL member.

### 2021 Membership Data

CSforALL has provided the opportunity to connect with stakeholders in my state or region in virtual or in-person convenings.



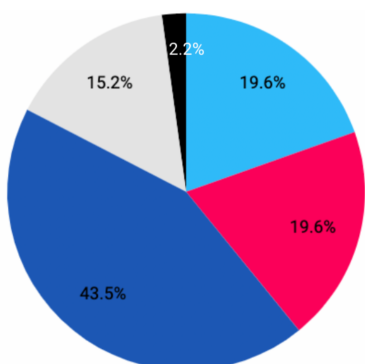
● Neither agree nor disagree ● Somewhat disagree ● Strongly agree ● Somewhat agree ● Strongly disagree



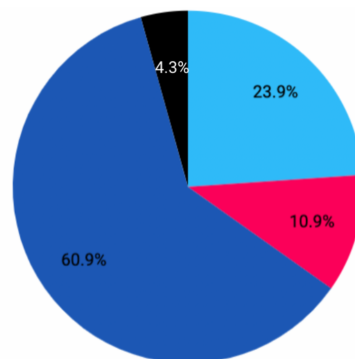
● Neither agree nor disagree ● Strongly disagree ● Somewhat disagree ● Somewhat agree ● Strongly agree

I have heard stories of CSEd successes that have inspired me through CSforALL events/media.

The engagement with CSforALL has benefited my organization in our work on equitable CS education activities.

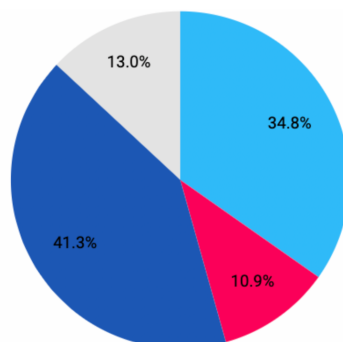


● Somewhat agree ● Somewhat disagree ● Strongly agree ● Neither agree nor disagree ● Strongly disagree



● Somewhat agree ● Neither agree nor disagree ● Strongly agree ● Somewhat disagree

CSforALL has enabled me to create new partnerships through direct interactions with tools, the CSforALL website, media, or events.



● Somewhat agree ● Somewhat disagree ● Strongly agree ● Neither agree nor disagree

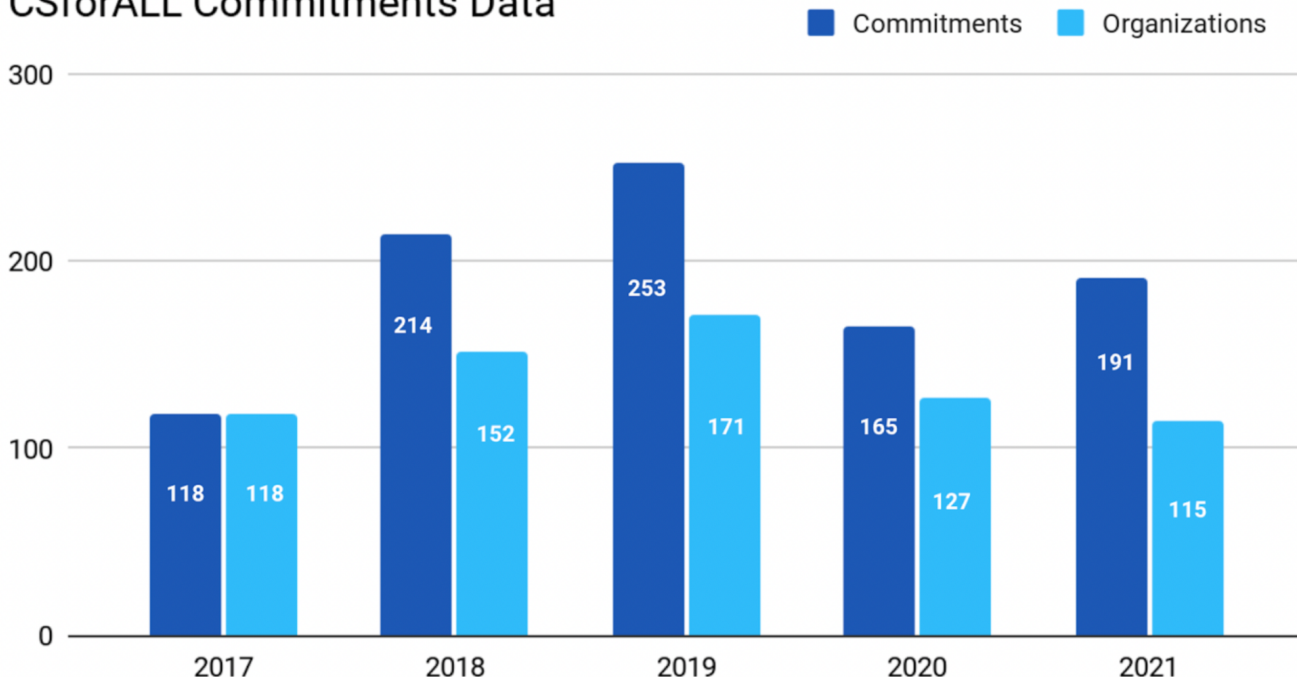
CSforALL has shared a tool or resource that has improved my ability to increase access or quality within my programs/work.

# CSforALL MEMBERSHIP



The Call for Commitments moves organizations in the CSforALL Community to **convert intentions into actions**, and CSforALL supports those intentions by providing a structure, a platform, a spotlight, and helping them to find partners to bring their CS Education intentions into action.

## CSforALL Commitments Data



Since 2017, CSforALL has created a call to action for organizations to submit commitments toward the goal of **impacting rigorous, inclusive, and sustainable computer science for all students**.

**With the onset of the COVID-19 pandemic in 2020, CSforALL knew access to computer science has never been more crucial to preparing United States students for the future.**

To communicate the importance and share the true impact of making a CSforALL commitment, we released a series of Commitment Webinars to the community that highlighted different perspectives and stories from past commitment makers.

**4 WEBINARS**

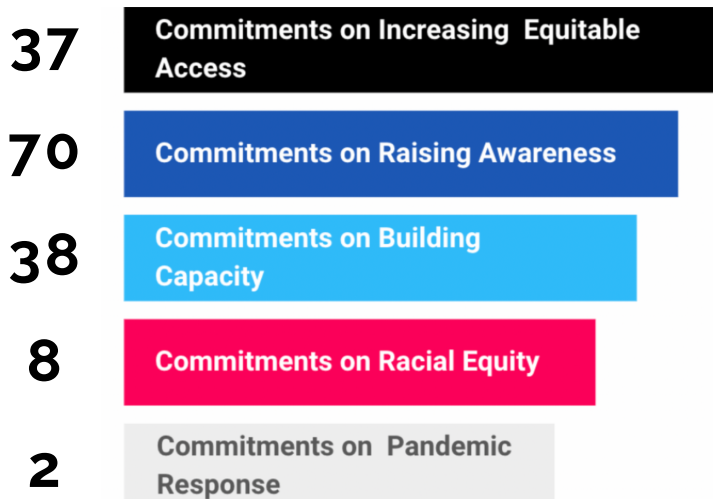
**9 SPEAKERS**

**183 TOTAL PARTICIPANTS**

## Connecting to the CSforALL Strategy

Community members are asked to make commitments aligning with three CSforALL strategies (Build Capacity, Increase Equitable Access and Outcomes, Raise Awareness), connecting to the Call for Commitments to these three areas.

### 2021 Commitments by Categories



**191**

Commitments Made  
in 2021

**941**

Total Commitments  
Since 2017

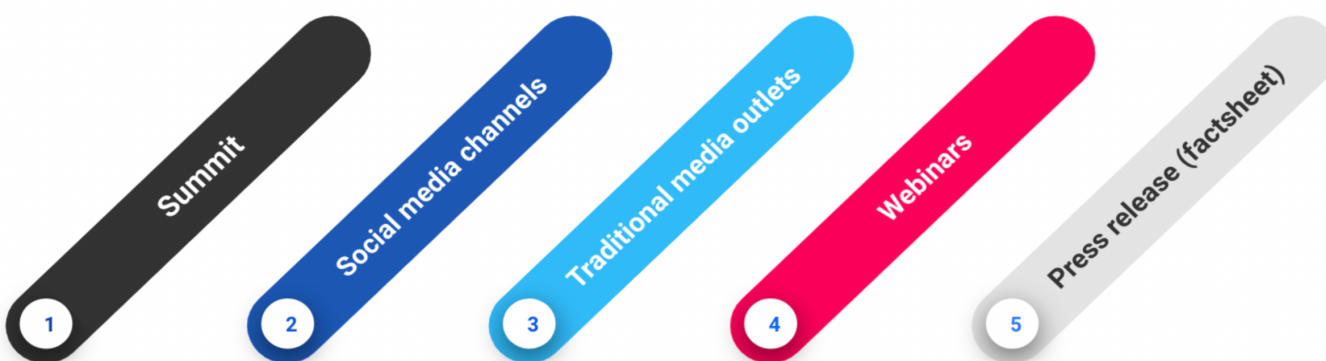
**746**

Total Organizations  
Since 2017





### Continuous Engagement and Commitments Highlights



### Testimonials from CSforALL Commitment Makers

- "Making a CSforALL commitment helped us shape our goals and strategy for the upcoming year."
- "CSforAll supports us in developing our commitments by keeping us aware of the needs and development of CS education across the nation. The webinars about commitments helped with developing our own."
- "The call to action provided inspiration and encouragement to step up and make a commitment. I really think it gave me the hope I needed."
- "The 'commitment wizard' that leads us through the form is very helpful as well as the data sharing (I am a 3-year commitment maker)."
- "The ability to connect and have some side conversations helped. The support tools provided were great!"
- "I think we were able to make connections to people who are in practice; since we are more of a research / capacity building organization, this is important."
- "Making a commitment both helped us articulate our work publicly and increased our visibility."



# CHANGE HAPPENS WITH PARTNERSHIPS IN PLACES

OCTOBER 19 & 20, 2021

## 2021 VIRTUAL SUMMIT



RUHA BENJAMIN

BRANDON TORY

MARK CUBAN

BUKOLA SOMIDE

### TOP SPEAKERS

### SPONSORS AND PARTNERS

*Sponsorship, Exhibitors and In-Kind Support*



25 Partnerships



15



\$222,500  
Revenue

### Sponsor Notable Moments

**Kapor Center** sponsored keynote speaker, Dr. Ruha Benjamin, allowing for deeper mission alignment in their work.

**Wonder Workshop** in partnership with CS is Elementary provided an interactive segment focused on family engagement.

### Exhibitor Booths



25 Booths



\$15,000 Revenue

10

Nonprofit, Content Providers, and University Programs

6

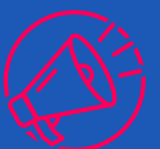
In-Kind Barter

7

Sponsor Booths (Included in agreement)

2

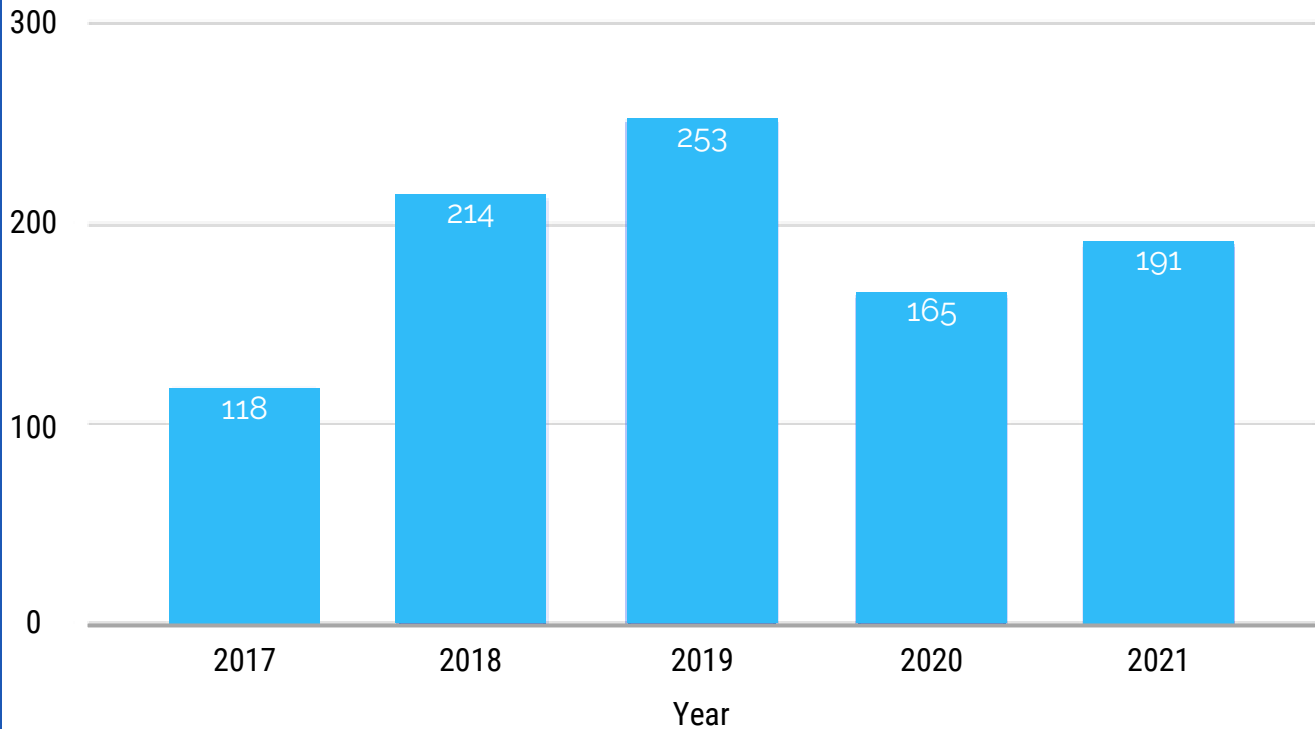
CSforALL Info Hubs



## CELEBRATING 5 YEARS

OCTOBER 19 & 20, 2021

CSforALL Commitments by Year



In 2021, 191 Commitments by 115 Organizations

### REGISTRATION

397

REGISTER



326

attendees



\$15,022

ticket sales

### Summit Speakers



80+ Speakers



69

### Traditional and Social Media



20+ articles



1+ Million Impressions

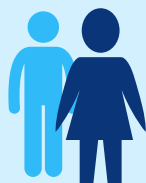




## THE SCRIPT: STRATEGIC CSFORALL PLANNING TOOL FOR SCHOOL DISTRICTS

SCRIPT

### Facilitators NUMBERS



**68** new  
**SCRIPT Facilitators**



### Updated TOOLS & PROGRAM

**NEW 6th Rubric**



**Technology  
Infrastructure**

### District WORKSHOPS



Together with the  
SCRIPT Community....

**92** **SCRIPT Workshops**  
were held



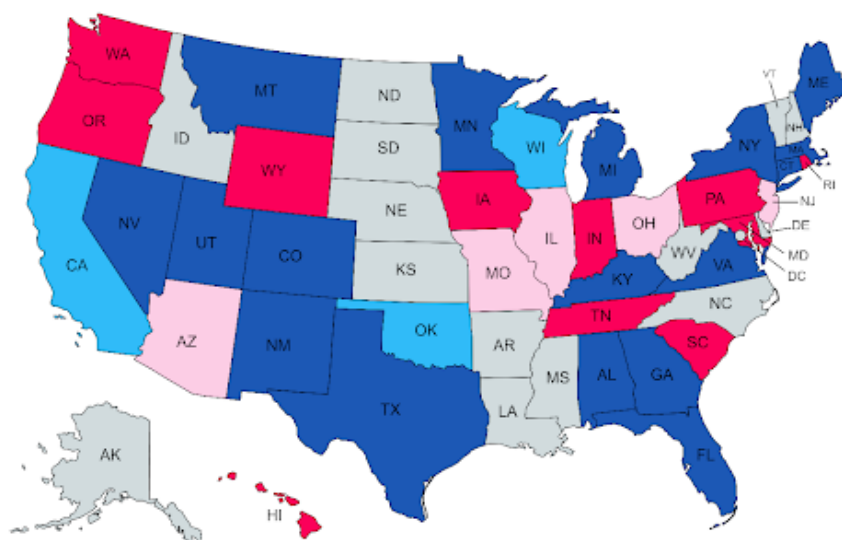
**IMPACTING**

**217**

**DISTRICTS**

## SCRIPT Activity in 2021 Geographically

*Last Updated 12/2021*



SCRIPT Workshops

New SCRIPT Facilitator  
Workshops

State-Wide Initiatives  
with Facilitator-led  
SCRIPT Workshops

Regional Initiatives  
with Facilitator-led  
SCRIPT Workshops

# BRING CHANGE TO SCHOOLS AND DISTRICTS

SCRIPT

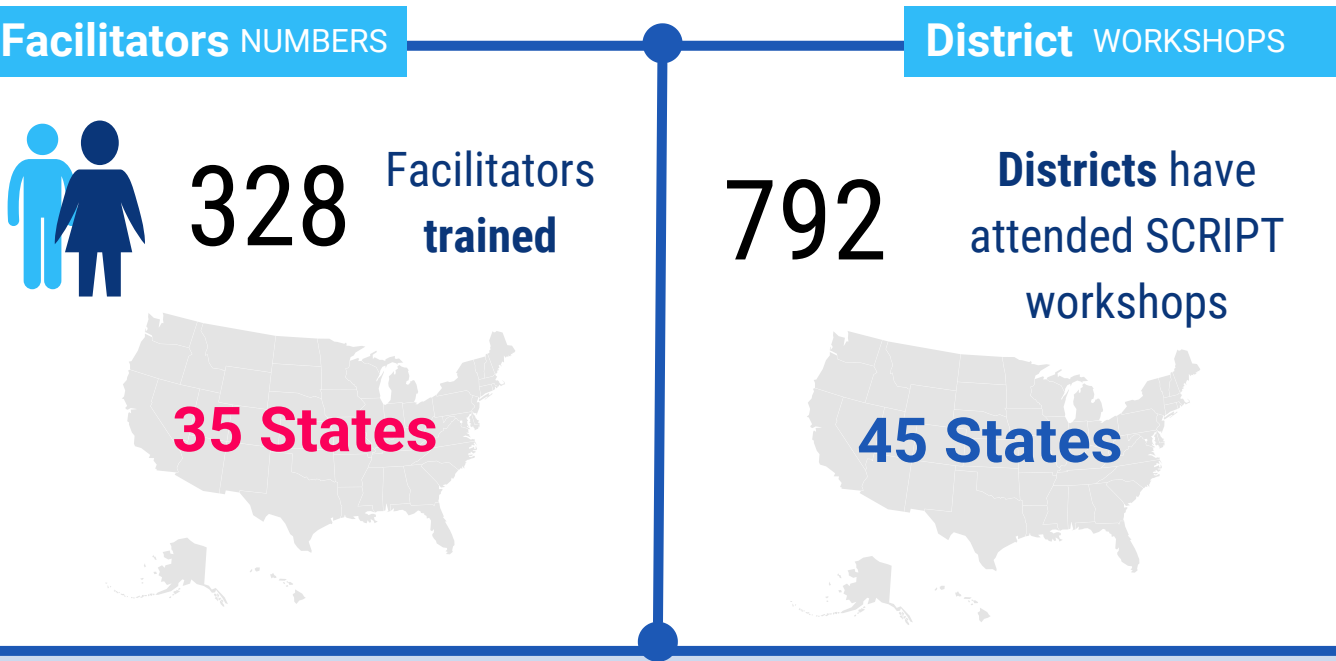
SCRIPT



## By The Numbers: SCRIPT

SINCE 2017...

We continue to see **local communities** are the true **units of change** towards creating rigorous, sustainable, & inclusive K-12 CSED implementation.



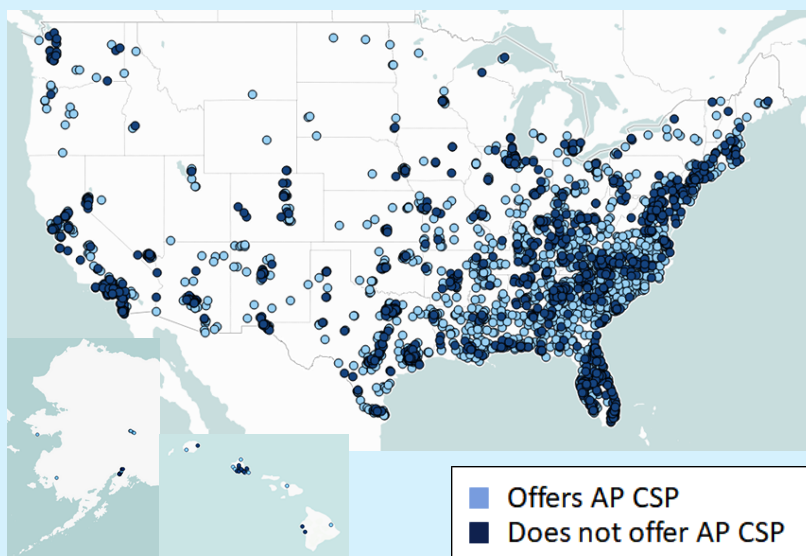
4.5 Million+ Students  
*attend SCRIPT districts*

4,000 Educators  
*engaged in local CSEd Efforts*

SCRIPT



## 29 Schools Actively Engaged



The goal of the demonstration is to reach the 32% of students who do not currently have access to computer science in their school. The JROTC-CS Demonstration project, in collaboration with the United States JROTC HQ and partners, designed and began testing the model for long term scale up of evidence-based Computer Science (CS) and cybersecurity education implementation of Advanced Placement Computer Science Principles at schools where there were there are JROTC candidates.

## JROTC-CS LAUNCHED THE INITIAL ADOPT-A-SCHOOL PROGRAM IN SPRING 2021



Engagements impacting **278** Students

Edmond North High School, Shadow Ridge High School, Westside High School



Engagements impacting **80+** Students

Alan B. Shepard High School, Cactus High School, Columbia High School



Engagements impacting **320+** Students

Aberdeen High School, Utah Military Academy



*Capital One Coders inspires students to recognize their potential as technologists through high-impact programming and mentorship. As part of the Capital One Impact Initiative, we are proud to support CSforALL and the Adopt-A-School program, to reach a wider network of students and further close gaps in education and opportunity.*

– Emmanuel Offiong

VP & CTO, Small Business Bank, Capital One

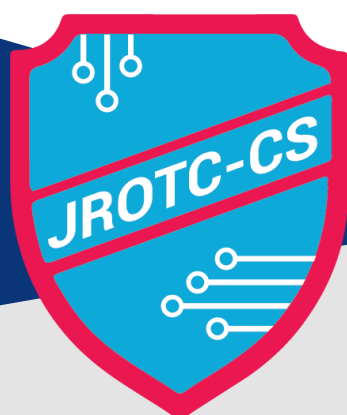
## 2 ADVISORY BOARD MEETINGS HOSTED IN 2021 TO PROVIDE UPDATES AND ANECDOTES

### Partners

United States Air Force, College Board, AF CyberPatriot, Cyber.org, WITH HONOR, NICE

### Funders

Intel, Google, Microsoft, Lockheed Martin, Capital One, SNAP, SANS Institute, Schmidt Futures, Internet Association



**FUNDED THROUGH THE NATIONAL SCIENCE FOUNDATION, JROTC-CS HOSTED THE SUMMER CYBERSECURITY CAMP FOR 100 STUDENTS IN PARTNERSHIP WITH WATCOMM AND COMMUNITY COLLEGES.**

A total of 106 applied; 97 were offered and remained in the summer camp.



# WHY JROTC-CS MARINES

This new partnership with the United States Marines Corps will take the Air Force JROTC-CS model, with training Marines JROTC school teams through the school-based SCRIPT tool such that they can implement computer science (namely AP CSP and cybersecurity offerings like Cyber Patriot) that can benefit not only participating cadets but also all students school-wide.

## MAIN PARTNERSHIP

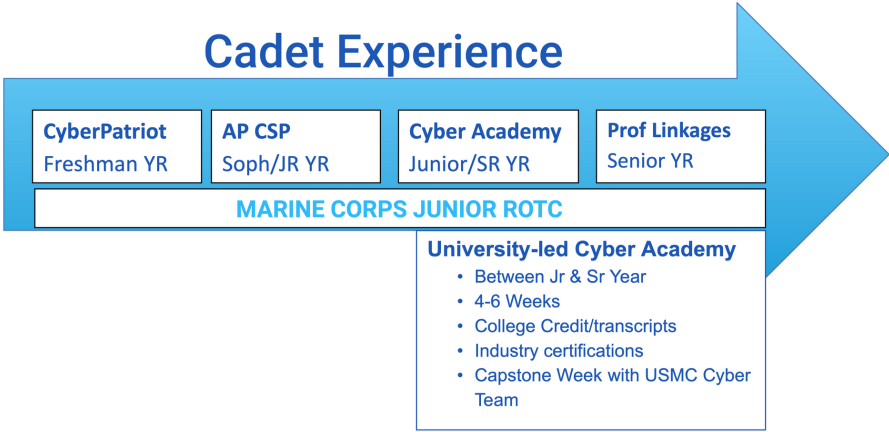
The current main partnership is with the United States Marines Corps. We hope that as participating cadets engage with the cadet pathway (see graphic below), our existing partners will continue engaging with new Marines JROTC-CS schools to support the Adopt-a-School and other corporate engagement opportunities.



### PLANS FOR 2022

The plans for 2022 are to recruit a cohort, **aiming for 8-10 schools to implement this program.**

1. Recruitment and admission to the program.
2. Delivery of a SCRIPT workshop for school-based teams taking place.
3. Schools will then implement their computer science education plans during the 2022-2023 school year.



## WHAT DATA SHOW ABOUT CSFORALL EFFORTS IN THE JROTC-CS PROJECT ..... OVERALL .....

**CSforALL JROTC-CS Demonstration  
Project Year 1 Evaluation Report**

- Despite the challenges [of COVID-19], the JROTC-CS Demonstration Project had significant impacts on the participating schools’ ability to build a CS and Cybersecurity education program at their schools. Notably, this impact was realized in Title I schools more than non-Title schools.
- There was a 60% increase in the number of schools that had students take the AP CSP exam and a 6% increase in the number of students taking the exam. We note that there was an increase in the number of students from Title I schools taking the exam while there was a decrease in the number of students from non-Title I schools who took the exam (likely due to the impact from the pandemic).
- Under-served schools (particularly Title I, or schools serving students from traditionally lower socioeconomic status) are in great need of support, particularly in funding resources to compensate time and energy for teachers and JROTC instructors who are facing the challenges of attrition.
- Schools are also in need of technology support in terms of infrastructure and devices for students.
- Targeting JROTC-CS schools is still a key pathway for making change at the school-based level, particularly in the effort of reaching underrepresented students and traditionally marginalized communities.



PREPARING TEACHERS FOR THE  
CLASSROOM OF TODAYcsfored.org  
computingteacher.org

CsforED

CSUDH

UTEP

Georgia State  
University

UF

**\$20M of private investments to schools of education  
to endow sustainable CS teacher preparation.****Institutions**

- California State University, Dominguez Hills, and Georgia State University will each receive \$5 million from Snap Inc.
- University of Florida and University of Texas at El Paso will each receive \$5 million from philanthropist Ken Griffin, Founder and CEO of Citadel Capital, and Hopper Dean Foundation, respectively.

**Partners**

University of Indiana,  
Google CSER  
Program, UT EL Paso,  
Cal State Dominguez,  
University of Florida,  
and Georgia State

**Funders**

Snap Inc.,  
Kenneth C. Griffin,  
Founder and CEO  
of Citadel Capital,  
and Hopper Dean  
Foundation



*SNAP invests in our community partners who further our mission to ensure diversity, equity, and inclusion in technical careers; that's why supporting CSforALL and CSforED in the launch year was so important to be a part of.*

– Oona King

VP of Diversity, Equity, & Inclusion, SNAP Inc.

**IN 2022, 2 WEBINARS WILL SHARE OUT THE PROGRESS AND PROMISING PRACTICES**

These four institutions  
will prepare

**1,000**

Each year of graduates  
has the potential to impact

**1 MILLION****teachers with foundational CS knowledge****students**

# NSF AWARDS NEARLY 1 MILLION TO SUPPORT TENNESSEE CS EDUCATION

SCRIPT CREW



have been awarded a **three year grant of \$999,160** from National Science Foundation (NSF) to advance computer science education in K-12 Tennessee school districts.

to reach at least

**67 LEAs**

in TN with SCRIPT by August 2024.

**That's 45%** of all

public school districts  
in Tennessee.

"With this collaboration and three year grant, almost half of the school districts in Tennessee will raise awareness for the need for CS education!" — **Leigh Ann DeLyser, Co-Founder and Executive Director of CSforALL**

"The jobs of today and tomorrow increasingly rely on technology," said **Tennessee Governor Bill Lee**. "This NSF grant and its focus on preparing school districts across the state to teach computer science aligns closely with our Future Workforce Initiative. With both of these innovative initiatives statewide, we intend to make Tennessee a top state for job creation in STEM."

"We are honored to have the support of the NSF as we partner with CSforALL to scale up computer science education across Tennessee," said **Meka Egwuekwe, CodeCrew Executive Director**. "This grant will help ensure we are collaborative and strategic as our state implements this important foundational element of modern education, all while making Tennessee more competitive."





## RESEARCH POLICY EVALUATION



[The Future of Problem Solving with Data and Intelligence:  
Increasing Artificial Intelligence and Data Science Education Across the US](#)

### Research Practice Partnerships (RPP) for CS



unique research practice memberships from across the US and Puerto Rico that have received NSF funding to conduct research as an RPP

The first four in a series of 10 spotlights on these RPP Projects, with a focus on sharing research insights with an audience of practitioners including teachers, administrators, and teacher educators, were released in 2021, including: **Student Voice Research (REAL-CS Collaborative Project)**, **CS Visions**, **Bootstrap: Integrating CS and Mathematics to Achieve Shared Concept and Practice Goals**, and **CS-TLC New Brunswick**.

## 8 Papers and Journal Articles in 2021

1. [Piloting the Air Force JROTC Cyber Academy for High School Students](#)
2. [Document Analysis of ECEP Longitudinal Data: A Case Study With Indiana](#)
3. [Leveraging Collective Impact to Promote Systemic Change in CS Education](#)
4. [Community Design for Connected Communities of Practice in Computer Science Education Research](#)
5. [Building and Expanding the Capacity of Schools of Education to Prepare and Support Teachers to Teach Computer Science](#)
6. [Applying CAPE to Assess Equitable CS Education](#)
7. [Computational Thinking as District Strategy: Moving the CS vs CT Debate From the Ivory Tower to the Schoolhouse](#)
8. [Supporting Ongoing Teacher Capacity and Development: Moving Beyond Orientation Professional Development to Support Advanced Teacher Learning](#)

\*All authors can found on individual reports hyperlinked above

#### AUDIENCE



The AI/DS report is meant to inform people developing education policy. The RPPforCS spotlights could be useful for CS Ed practitioners looking for new insights.

#### PARTNERS AND FUNDERS



The National Science Foundation has supported the development of all of these products through the NSF-DRL-1745199 and NSF-CNS-2135878 grants.



## THANK YOU FOR PLAYING A CRITICAL ROLE IN BUILDING THE CS EDUCATION ECOSYSTEM

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 National Center for Computer Science  
 Education  
 Marine Corps JROTC  
 National Science Foundation  
 Northrup Grumman  
 Siegel Family Endowment  
 Snap, Inc.  
 The Patrick J. McGovern Foundation  
 VHS Learning  
 Wix Education  
 Wonder Workshop

### INDIVIDUAL SUPPORT

Catherine Ahrens  
 Leigh Ann DeLyser  
 Leah Dodell  
 The Dubno Blackford Fund  
 Megan Hildebrand  
 Sarah Holloway  
 Jaffe Foundation  
 Katy Knight  
 Evan Korth  
 Monica McGill  
 Bruce and Lucinda Sanders Charitable Fund  
 Christine Santiago  
 Nicki Washington  
 Jake Wright Charitable Fund of the Jewish  
 Communal Fund



Thank you to our more than 400 individual  
 donors who have supported us through  
 donor advised funds, employer giving  
 programs, crowdfunding campaigns or  
 anonymously to collectively raise \$90,000  
 in unrestricted support throughout 2021.  
 Your philanthropic commitments both  
 enable and inspire us to dig deep in this  
 critical work.



# AN INSIDE LOOK AT CSFORALL



**Leigh Ann DeLyser**  
Executive Director  
and Co-Founder



**Doug Jaffe**  
Chair



**Katy Knight**  
Vice Chair



**Sarah Holloway**  
Treasurer



**Lucy Sanders**  
Secretary



**Michael Dubno**  
Board Member



**Evan Korth**  
Board Member



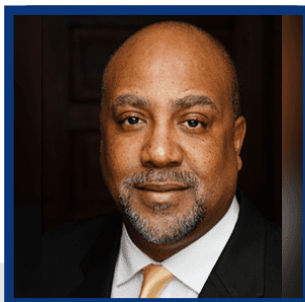
**Hope Taitz**  
Board Member



**Jose Antonio Tijerino**  
Board Member



**Dr. Nicki Washington**  
Board Member



**Chad Womack**  
Board Member



**Fred Wilson**  
Founder, Chair  
Emeritus



# AN INSIDE LOOK AT CSFORALL



**Morgan McCray**  
Senior Director,  
Operations



**Megan Hildebrand**  
Director of  
Development

**Leigh Ann DeLyser**  
Executive Director  
and Co-Founder



**Karen R. Cheng**  
Senior Program  
Manager



**Stephanie Wortel-London**  
Director of Research

**Camie Belgrave**  
Senior Director of  
Programs and  
Partnerships



**Sriranjini Kozhissery**  
Senior Manager of  
Community Engagement

**Emilio Vargas Vite**  
Data and Systems  
Analyst



**Nadia Tronick**  
Communications  
Manager







**Wren Hoffman**  
SCRIPT Implementation  
Manager

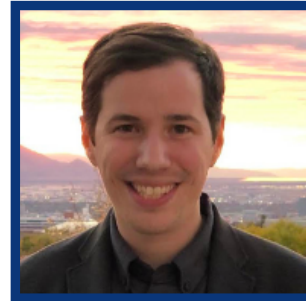


**Luronne Vaval**  
Research Associate

**Tina Boyle Whyte**  
Project Director,  
JROTC-CS



**Lilli Jimenez**  
Full Stack Developer



**Danielle Limpabandh**  
Communications  
Associate



**Joe Sweeney**  
Administrative  
Assistant

# AN INSIDE LOOK AT CSFORALL



CsforALL