CodeVA

CONNECTING TOGETHER

2022 Annual Report

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Letter from the Executive Director

Chris Dovi

This is the year Virginia rolled up its sleeves and got serious about its commitment to making Computer Science Literacy a reality for every learner.

Most important to the progress we've seen this year is the growing collaborative relationship between the Virginia Department of Education and CodeVA. State Leaders have long voiced their **bipartisan support** for Computer Science education, and this new administration is expanding bigtime on previous governors' commitment through bold steps aimed at supporting school division adoption of the mandated computer science standards of learning.

CodeVA is proud to be working closely with VDOE and other state leaders to **ensure teachers and school leaders have the resources they need** to bring computer science to every classroom.

Perhaps the most visible part of this partnership is CodeVA's work to support the state's lab school initiative. By convening dozens of school, higher education and industry partners in the Virginia Computer Science Lab School Network, CodeVA is leading an initiative that we hope might also lead to establishment of a statewide STEM Hub Network for Virginia. This hub network and its associated lab schools will make resources, services, and programs for families, educators, and communities far more accessible and easier to find.

And the associated computer science lab schools will foster innovation that ultimately will **improve computer science instruction and learning for every student in Virginia,** not just those who attend lab schools. These will be places where classroom teachers and researchers expand the limits and possibilities of computer science education.

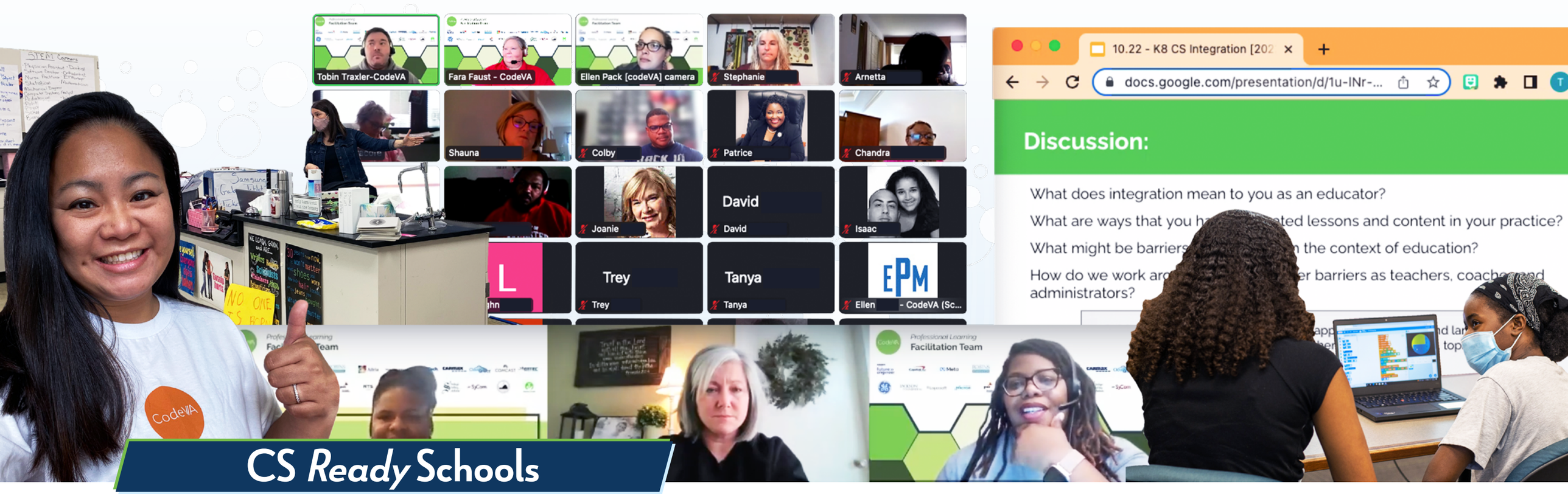
CodeVA is already leaning in to the need for this sort of scholarship and research. Now recipient of three National Science Foundation-funded research grants, CodeVA's most recent such award, focused on computer science teacher licensure, aims to impact state's goal of making high school computer science elective courses available at every Virginia high school. **By creating an easier path to computer science classrooms for more teachers, more students will receive quality in-person instruction.**

But what's all that work without making sure there is time for play?

CodeVA is also making time for that play by expanding availability of its Eureka Workshop children's programs. This year these programs - arts and music-integrated programs designed to engage students in CS through playful exploration - expanded beyond their Richmond roots, offering camps and programs in both Roanoke and Petersburg.

Our goal is not to run summer camps across the state, but instead to develop a **training resource for community partners** like Boys and Girls Clubs and YMCAs to offer CS camps and out-of-school-time fun. When kids have access to computer science through playful learning, it helps them see how they can use computer science as a tool for creative expression and storytelling. It also lets them see themselves as capable producers, rather than just consumers of technology.

We can't wait to see the amazing things Virginia's kids and teachers do with computer science in 2023 and beyond.



CS *Ready* Schools

CodeVA piloted the CS Ready School program in the 2020-21 school year, continued into the 2021-2022 school year, and made revisions to the program structure for the 2022-2023 school year.

What is CS Ready?

Through the multi-year CS Ready program, CodeVA's specialists guide Virginia schools in creating school-based Impact Teams, developing personalized CS targets and goals for their school, and establishing strong foundations for school-wide computer science education and culture. Participating schools use CodeVA's free professional learning, curriculum, and resources to develop and implement their CS targets, measuring progress and adjusting their paths along the way to **provide high-quality CS instruction to all students in their learning community.**

CS Ready School Values

With an enhanced focus on reaching Title 1 and underserved schools, the CS Ready Program guarantees:

- **ALL** students have access to CS experiences
- **ALL** educators have knowledge and skills to integrate CS along with ongoing access to CS professional learning
- **ALL** school leaders have information and resources to ensure their school is implementing Virginia's computer science mandate
- Family and community stakeholders are aware of the school's computer science initiative

This year 28 schools are working with us to make every student CS Ready, with 110 educators leading their schools' impact teams, learning and collaborating together throughout the year.

Program Components

Each school forms an Impact Team to steer it throughout the CS Ready planning and implementation process. The team should include: a building leader/administrator, an instructional technology specialist/ITRT, and a classroom teacher. **Each perspective is *essential* to support the school as a whole.** Each Impact Team is provided an **Implementation Guide** that outlines the program, a **Digital Companion Canvas Course** for information and collaboration, and a **Community Workbook** for each member. During the program there are opportunities for self-reflection and assessment tools are provided as teams work through the stages.

CodeVA hosts a live, virtual Kickoff and four subsequent Micro Sessions for Impact Team members to attend. In each event, resources are reviewed and modeled to assist the team in sharing out within the school. CodeVA also offers quarterly check-ins with schools both in groups within a stage and individually as a school.

CS Ready Schools are underwritten
by generous support from Amazon Future Engineer

amazon future engineer

EUREKA WORKSHOP

Eureka Workshop returned to in-person offerings in 2022. As community organizations began returning to pre-pandemic programs in the last year, many, including Eureka Workshop, have joined with other organizations to support and serve children in the best way possible. In addition to serving 330 kids through in-person Summer Camps and our Middle School conference, Full Steam Ahead, we have had our most active Fall season ever.

Eureka instructors connect with, on average, 155 students weekly through programs with community partner organizations and our on-site, after-school and Robotics programs. We are happy to have new partnerships and strengthened relationships with many organizations. Currently, we work with over 18 different community organizations and schools.

Some new partnerships for Eureka Workshop include:

The Girl Scouts of the Commonwealth of Virginia
HYPE in Petersburg, VA
Cultural Roots Homeschool Collective
Henrico County Parks & Recreation

This exciting growth has been fueled by the addition of our Community Administrator position, the expansion of Robotics league programming, an increase in passionate part-time instructors, and the ability to reach partners through our Roanoke office. We have served over 800 students in person during 2022.

More than
900 students
participated in
free Eureka Workshop activities

Eureka instructors reach
155 students / week
on average

5,000+
issues of Snail Mail
are printed and distributed
with each publication

Every copy of Snail Mail is printed in
Spanish and English
as a bilingual publication

Along with the growth seen in programming with partner organizations, our family engagement has also increased through activities such as **Unplugged Adventures** and **Snail Mail.** Families can participate together in problem-solving games and art activities to get the body and brain moving during the Unplugged Adventures events offered at Henrico County Libraries. Currently, 1,042 families are registered to receive Snail Mail, our booklet of STEAM activities and articles in their mailbox. An additional 3,929 issues of Snail Mail are distributed through partners such as The City of Richmond Public Schools Lit Limo and the Roanoke Housing Authority.

As 2023 approaches, the Eureka team looks forward to nurturing these relationships and growing to serve more students across the state.

Support for Eureka Workshop is generously provided by the following funders:

community foundation
pwc Charitable Foundation
JACKSON FOUNDATION
Meta

Educator Engagement

By delivering professional learning, crafting curriculum materials and providing direct support to schools and districts CodeVA's Educator Engagement division served over 6000 participants in 2022.

Professional Learning

CodeVA programs are designed to **meet educators where they are** - whether new or experienced - and support them as they work to learn and teach in computer science. Sessions are conducted by CodeVA's Instructional Faculty, all local full time teachers.

From webinar explorations of computer science topics, to year-long cohorts preparing teachers for in-depth computer science electives, our faculty deliver Professional Learning throughout the year and across the state.

Using the training and support CodeVA provides, faculty also support their schools and districts by offering professional learning and helping design curriculum. Additionally, CodeVA's facilitators lead CS learning in their classrooms and in afterschool programs and events, collectively impacting thousands of additional students across the state.

Curriculum

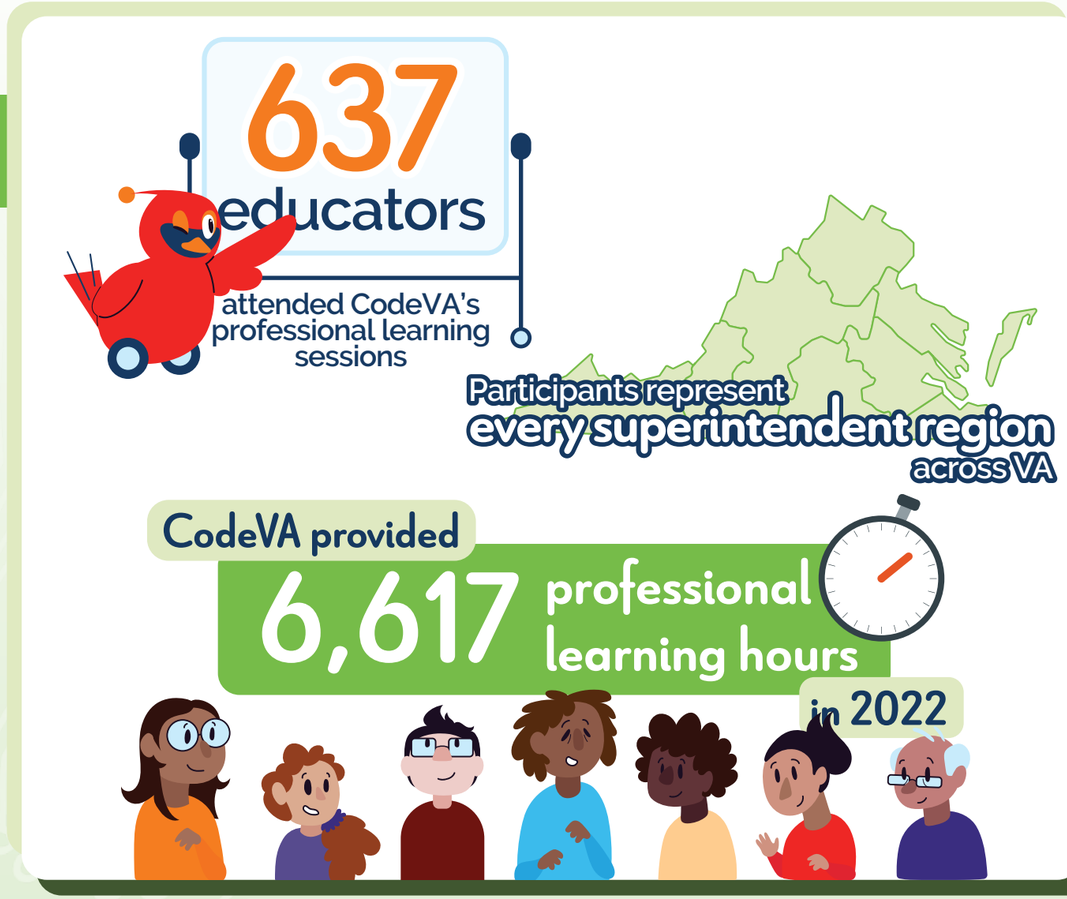
For teachers preparing to teach an entirely new subject, professional learning is not enough. They also **need the resources and materials to bring computer science to life** in their classrooms. To make sure Virginia's teachers have these materials when they need them, CodeVA's curriculum team developed several new curriculum kits. Similar to our faculty model, the curriculum team relies on a group of highly-trained Adjunct Curriculum Writers to design materials and lessons. Like the Adjunct Faculty, our writers are all classroom teachers with experience and expertise in developing computer science classroom resources.

The VDOE is poised to launch a new data science course, and with funding from Capital One, CodeVA developed a series of lessons that support math teachers, including computer science content to deliver in this exciting new course.

To support middle and high school teachers that need licensure in computer science, the curriculum team developed a new program that prepares teachers to take the Computer Science Praxis exam. CodeVA is piloting the program in 2022-2023, and will launch statewide next year. Praxis Exam Prep is generously funded by a grant from Microsoft.

Thank you to our generous curriculum sponsors

Microsoft Capital One



Virginia's CS mandate requires computer science be integrated into core instruction from kindergarten through 8th grade. To ensure teachers and school leaders are well prepared, the curriculum team has generated various resources. To support school leaders in charge of designing district curriculum, CodeVA's **Integration Guide** offers ways to make space for computer science in school. We also released a set of **Pocket Guides** that give a quick overview of the CS standards and **Grade-Level Alignment Guides** that specify what must be covered at each grade level and tips for where the CS content aligns with core subject areas. To bring all of this together, the team produced classroom level lesson plans, shared in the state's Go Open VA portal, to ensure teachers have access to high quality materials when they need them.

Statewide Impact

- **34% of participating educators serve in Title 1 schools** and 78% were brand new to CodeVA's professional learning
- **143 participants were returning educators** who have previously attended CodeVA learning sessions
- Based on teacher feedback, we **began offering a variety of learning options:** virtual one-day and multi-day courses, online guided modules, learning bytes (shorter topic-focused workshops), and in-person events across the state.
- We were involved in **13 large-scale educator events** (including 2 podcast recordings and 1 webinar) and 11 state conferences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Research

CodeVA is proud to have been awarded **three National Science Foundation research grants.** Two of those grants are well along in their work. We're also proud to serve as partners on a number of other federally funded projects, including VTEC CTE, which partners CodeVA with the **Virginia Tribal Education Consortium,** which comprises all of Virginia's Native American tribes.

CS for Social Studies

CS for Social Studies (formerly Reaching Across the Hallway) is currently in year two of working with middle school social studies teachers. These teachers are participating in professional learning and coaching to support them as they work to integrate computer science into their social studies lessons. The research team has already had several key findings.

Research Findings

First, last year teachers were asked to work with all six strands of computer science. This caused some overwhelm, and the project **narrowed its focus to Data and Analysis, and Programming.**

Secondly, the choice of programming language is *critical.* Last year the team implemented Python, which had too steep a learning curve for inexperienced CS teachers. This year, teachers are using Twine, a language that allows for narrative programs. This means teachers can **more easily connect programming to core social studies content.**

Finally, coaching has been added this year, providing **real-time support for teachers** as they work to build new skills. As this program grows, the methodologies around computer science integration and computer science coaching strategies will inform other CodeVA programs.

CS For and By Teachers

CS For and By Teachers this year led eight teachers from three schools in two school divisions through a five-day summer PD, two after-school sessions and a fall all-day session. PD sessions went smoothly. Teachers provided the following feedback:

"The flowchart and the computational thinking was very engaging."

"I think the "Who Am I" activity can be used with students and adults as a team building, social emotional and/or 'getting to know you' activity (cultural awareness)."

"I like working on the sketch with a small group to discuss our thoughts and questions we had towards the sketch activities."

"I enjoyed interacting with my colleagues while building lessons."

"I loved working with Anita to find resources from Chesterfield in regards to CS and what this district has to offer. I also enjoyed the Scratch activity."

Dr. Anita Crowder left her position as CodeVA's Director of Research and Evaluation in October, but continues serving as Principal Investigator leading this project's researcher-practitioner partnership.

VTEC Career and Technical Education Summer Academy

The Career and Technical Education project with Virginia Tribal Education Consortium **(VTEC CTE)** just closed out its first project year in October and we have entered year two. In October, the Curriculum Division presented a Learning Byte in preparation for American Indian Heritage Month and shared lessons and resources created in collaboration with VTEC and a group of Native curriculum writers. Eureka Workshop completed work on a Career and Technical Education Summer Academy for high school students and is **collaborating with VTEC to offer this program on site in tribal communities starting Summer 2023**.

Equipping for Praxis

The Equipping for Praxis PI team began meeting officially in November after being granted their proposal in August. There are several large agenda items currently being addressed in preparation for onboarding the full team and starting the work of Phase 1. The Advisory Board will be convened in February with a grant onboarding session designed by the full research and practitioner team.

The following are the major milestones for this first quarter of work:

- The PI team needs to fill the remaining two seats on the Researcher Practitioner Partnership (RPP). Both are positions that were vacated due to member's capacity issues.
- The RPP will be onboarded through a series of bi-weekly 1.25 hr meetings starting in late November.
- The grant's Project Manager will compile the deliverables/development roadmap from the original proposal.
- The full team will create a plan to evaluate and revise the current Praxis Pilot curriculum for enactment with the grant's participants in August 2023.

Volunteer or Donate

Help provide computer science education to all VA's students!

- **Moderate** online learning sessions for children or teachers
- **Troubleshoot** technical and online access issues during sessions
- **Send** supplies and resources to teachers and students statewide
- **Aid** in organizing and executing special events

If you are interested and would like to learn more about how you can help with CodeVA's online CS workshops and events, please visit ***www.codevirginia.org/volunteer***

Your tax deductible **donation** goes directly to:

- student programs
- educator training
- advocacy and events

If you are interested and would like to learn more about how your donation helps support CodeVA's work, please visit ***www.codevirginia.org/donate***

Advocacy

CodeVA's advocacy efforts continue to yield results. This year, based on legislation CodeVA wrote and advocated for in 2020 and 2021 allowing microcredentials for teacher licensure, CodeVA and Virtual Virginia partnered on a pilot for the Virginia Department of Education. This pilot, which is testing a model to allow the state to accredit microcredential providers, is necessary to building a system that will let Virginia benefit from use of micro-credentials for teachers. **The real winners will be teachers,** as microcredentials are typically cheaper than university credits, but equally rigorous in evaluating a teacher's knowledge and ability to use subject content. Also winning from microcredentials will be students interested in STEM and computer science, as this low-cost, high-quality system holds promise for **getting more qualified teachers into Virginia classrooms.**

CodeVA's other big advocacy win this year was in its big-lift assist to Gov. Glenn Youngkin and his lab school initiative. CodeVA was featured as a key partner during Gov. Youngkin's announcement of lab schools this past April at Google's Reston headquarters. Touting our proposal to develop a Virginia CS Lab School Network, Youngkin's administration - along with dozens of higher education, school division and industry partners - have continued to support this CodeVA-led initiative, which also seeks to **establish a statewide STEM hub network** serving educators, families, students, communities, employers and education researchers.

CodeVA's students and volunteers also participated during Gov. Glenn Youngkin's January 2022 Inaugural Parade at Virginia's Capitol Square.

CS Ed Week

CONNECTING TOGETHER

In 2021 and 2022, CodeVA's week of virtual events were attended by educators, students, and families alike. Over the course of both 2021 and 2022 CS Ed Week, thousands of students, teachers and families were engaged.

CodeVA's Computer Science Education Week LAUNCH, a week of virtual activities and in-person Full STEAM Ahead sessions, celebrated its 10th year this year. With the theme Connecting Together, the event returned in-person to the **Science Museum of Virginia,** with a day of fun for 150 students from Richmond Public Schools and the Cultural Roots homeschool co-op.

Our featured guests included Virginia's Superintendent of Public Instruction **Jillian Balow** and Secretary of Education **Aimee Guidera.** The kickoff event got a ton of help from volunteers representing Capital One, Bank of America, Amazon and others, and was emceed by Richmond computer scientist and well-known community personality **Todd Waldo.** CodeVA's media partner VPM, Virginia's home for public media, provided a statewide live-stream.

CS Ed Week is made possible made possible with support from the Virginia Department of Education and our sponsors

Virginia Department of Education · Meta · Google · Virginia Lottery

The 2021 CS Ed Week, themed Me My Data And I, featured a final turn by former Governor **Ralph Northam** and First Lady **Pamela Northam,** and return appearances from former Superintendent of Public Instruction **James Lane** and former Secretary of Education **Atif Qarni.** Though last year's event, hosted by former newscaster **Juan Conde,** forewent in-person student participation, the live stream was broadcast on December 6th from the Science Museum of VIrginia.

Computer Science Educators of the Year received 38 nominations, and five educators were recognized by CodeVA and the VDOE, with one educator being recognized as an overall winner. Our 2021 winners included **Heather Kiser, Melodie Surratt, Kyle Tower, Amy Sabarre,** and our overall winner **Kimberly Keith.** All were announced as planned during the CS Ed Week Live stream. The 2022 CS Educator of the Year competition involved a redesign of the competition itself, with nominations opened during CS Ed Week, and winners **to be announced in April 2023** by the VDOE.

CodeVA's Computer Science in Your Neighborhood competition for both 2021 and 2022 saw significant redesign, with 2021 moving the deadline to April 1 in order to accommodate more entries to better represent all 8 superintendent regions of the state. Meta sponsored both 2021 and 2022 competitions, though the 2022 competition added a new high school category that partnered with the national CyberStart America. This new category also added Commonwealth Cyber Initiative (CCI) node universities, Virginia Commonwealth University, George Mason University and Old Dominion University, as partners.

During both the 2021 and 2022 events, our virtual student activities and teacher-facing lunch-and-learn video premieres occurred throughout the week at different times.

FULL STEAM AHEAD

Full STEAM Ahead, CodeVA's annual youth STEAM Conference, returned this year to in-person at VCU College of Engineering West Hall on July 30. Led by CodeVA's Volunteer Coordinator, Affia Pollok, CodeVA staff and supporting volunteers from partners including CarMax and Bank of America, the program's mission is to engage middle school students with STEM and Computer Science fields through **experiential workshops led by industry professionals.**

In these workshops, we **inspire students to explore STEAM** fields with hands-on activities, and connect them with like-minded peers and professional role models.

In addition to the nearly two-dozen workshops, we were lucky to feature four amazing keynote speakers. Detroit native **Sharen Eddings** opened the event with a motivational talk about how she overcame life challenges to embark on her very own company called CodewithSharen. **Anthony Nuñez,** Founder and CEO of INF Care, provides in-home elderly care through the use of Robotic devices. At the end of the day,our last two keynotes, **Jane Margolis and Dr. Jean Ryoo,** authors of *Power On!* joined us for our for a talk about STEAM exposure and equality.

Among the interactive workshops students participated in were such varied activities as chicken wing dissection, constructing and launching rockets, and screen printing their very own t-shirts.

With a selection of **23 workshop speakers** from all over Virginia, the United States and even internationally, STEAM professionals gathered for a day of one hour interactive workshops with students from the Richmond and Tri-county areas. A total of 74 attendees for the day and 3 fantastic Key-note speakers, kids were able to enjoy a full day of fun activities.

BETTING Big on TECH

On April 14, 2022, over 250 CodeVA supporters and staff gathered at the Science Museum's Thalhimer Pavilion for CodeVA's fourth annual Betting Big on Tech.

The evening was packed with casino games (played with "funny money"), virtual horse derby races, robotics competitions (with VEX robots built by CodeVA's robotics teams), and music from DJ Eric Cunningham.

The event **raised over $84,000 in support of our programs for educators and students,** and brought together industry leaders, tech professionals, educators, and officials from across the region to celebrate computer science education and raise awareness of CodeVA's impact and need for philanthropic support. As a non-profit, we rely on the generosity of donors and sponsors to fuel our mission. With events like Betting Big on Tech, **we put the "fun" in Fundraising!**

CS for VA

CodeVA, in collaboration with Loudoun County Public Schools, invited educators from across Virginia to active their learning at hte regional CSforVA Conference held at the Steven F. Udvar-Hazy Center in Chantilly, Virginia. This conference hosted **two different tracks: one for administrators and one for educators.** The administrator track focused on division creation and implementation of a computer science strategic plan. The educator track focused on implementing and integrating computer science and computer science standards in the classroom. Nearly 200 educators from across the state registered, many participating in both tracks. Presenters included practicing educators, as we;; as nonprofit and tech industry leaders.

#CSforLCPS Google

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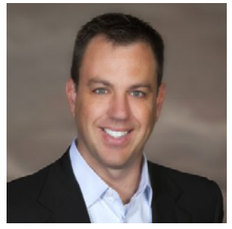


Vinnie Schoenfelder
CapTech

Revenues

Contributions and Grants	$2,263,658
Program Service Fees	$29,201
Interest Income	$838
Forgiveness of Refundable Advance	$0
Sales	$11,525
Total	**$2,305,223**

Expenses

Program Services	$2,512,286
Management and General	$1,141639
Fundraising	$202,768
Total	**$3,856,693**

Net Assets at the Beginning of the Year	$2,787,374
Change in Net Assets	$1,632,963
Net Assets at the End of the Year	$1,154,411

Preliminary data pending completion of audited financial statements through June 30, 2022

Fiscal Year 2022*

Our Sponsors

Our Partners

Looking Ahead

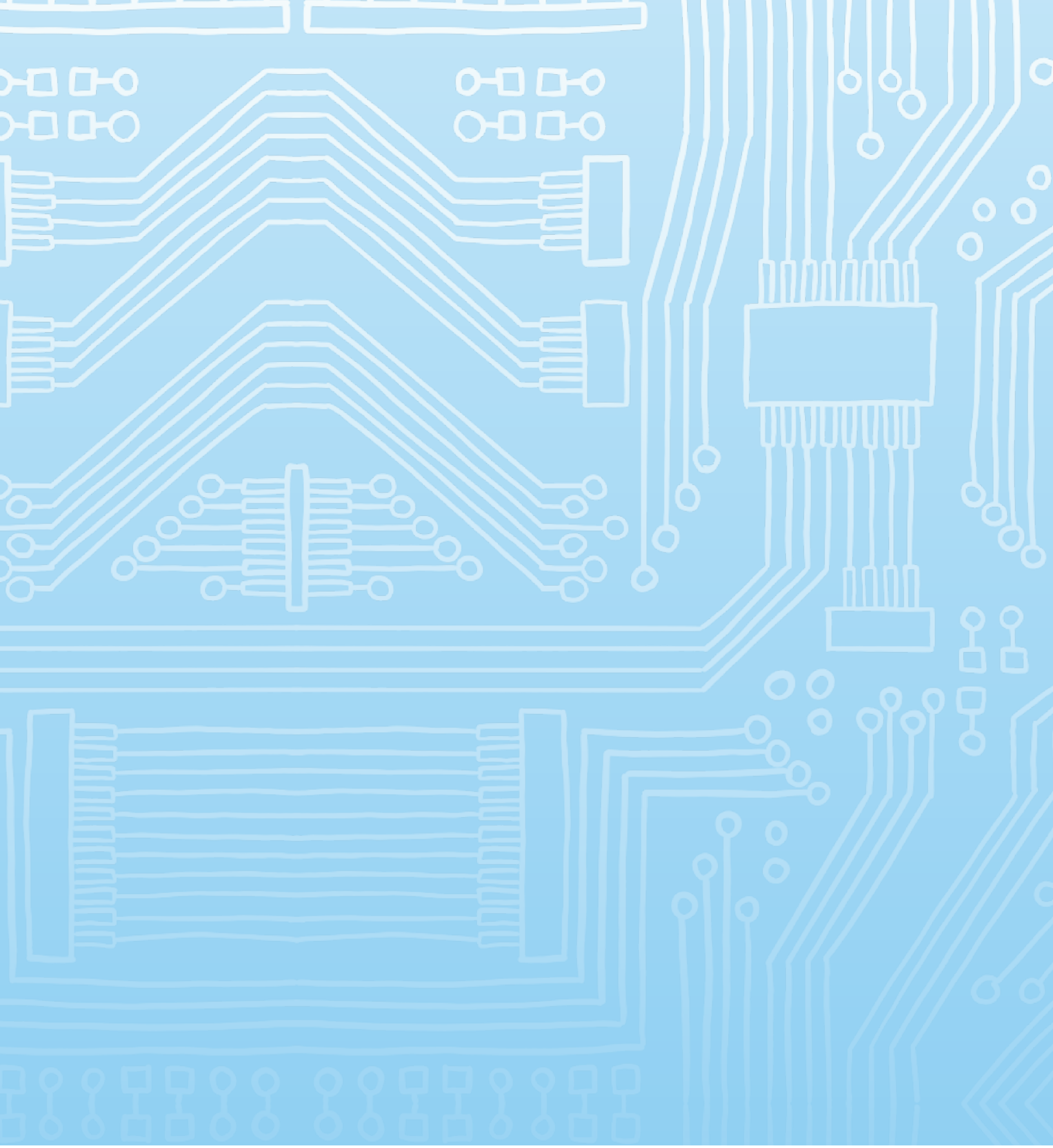
Thanks to the generous support of CodeVA's donors and sponsors, we are heading into the new year with plans for growth and continued improvements in programs. CodeVA's core values of thoughtful service, fearless curiosity, innovative collaboration, and boundless creativity will be reflected in our program design as well as our organizational blueprint.

This year, you may notice some exciting changes in how we operate:

- The Advancement team is bringing on a Marketing Coordinator to oversee CodeVA's communications and marketing approach
- We've partnered with WRIC and NexStar Media to broadcast commercials throughout Virginia, raising awareness of computer science initiatives and inviting teacher, school, and family involvement
- We will offer more in-person events and opportunities for volunteers, families, and community members to participate in our programs
- Quarterly networking events
- Monthly volunteer opportunities for CodeVA's donated laptop program
- We'll be celebrating CodeVA's 10th anniversary with a CS Ed Week gala and a brand relaunch - stay tuned for a new website and logo!
- We're going digital! Next year's annual report will be an interactive webpage
- CodeVA's professional learning team is expanding how we serve educators by offering more in-school services, and working with them during schoolwide professional development days
- Eureka Workshop will be offering more family engagement opportunities including monthly Unplugged Adventures, a robotics summit in May, and weekend workshops for families

At CodeVA we are committed to advancing our mission to best serve students throughout the Commonwealth - and ultimately throughout the country. Many of CodeVA's resources are created in Virginia, by and for Virginia teachers and students, but would be just as relevant in Wyoming or Pennsylvania classrooms. We are committed to adapting our programs to meet the current needs of the teachers and students whom we serve, and to continuously ask ourselves what equity in computer science looks like. When every child feels that they belong in computer science, when they have a foundational understanding of how to be creators using technology - when they are equipped to be makers and not just consumers - then we have done our job. We can't do it without you.

Thank you for joining us this year and for recognizing the once-in-a-lifetime opportunity we have to transform K-12 education so that every child in Virginia is digitally literate.



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