

The Patilies 71999A

ADVOCATING FOR STEM EDUCATION IN LOUDOUN COUNTY

TEAM 71999A'S EFFORTS TO BRING EQUITABLE ACCESS TO THEIR COMMUNITY

2024 Student Advocacy Award Online Challenge Submission

by Safwaan Majid

Team 71999A - The Patilies

R3V3RB Robotics

Sterling, Virginia





Team 71999A competing in a VRC Over Under match

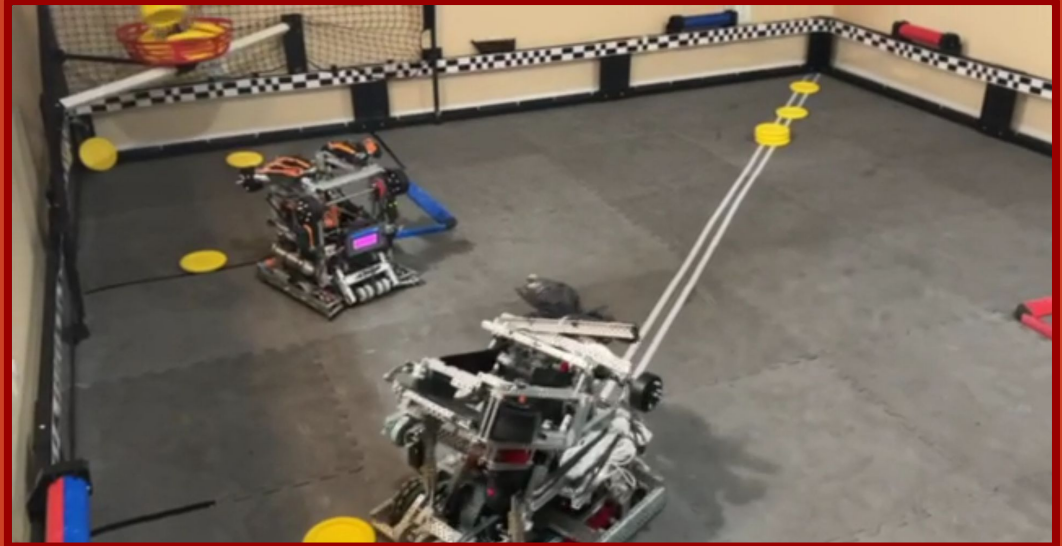
As proud members of the VEX Robotics community, we feel that it is important to share our passion of STEM with those in our region.

We always strive to help other teams, learn from our peers, and promote STEM education. We believe that these are responsibilities that we have to our community, and we take them very seriously. According to the Center for Strategic and International Studies, our country must have a “renewed investment in the nation’s STEM education system” if we want to remain competitive in the 21st century.¹

The need for STEM education in our community and across the country is more prevalent now than ever.

¹Athanasia, Gabrielle. “The U.S. Should Strengthen STEM Education to Remain Globally Competitive.” CSIS, 1 Apr. 2022, <https://www.csis.org/blogs/perspectives-innovation/us-should-strengthen-stem-education-remain-globally-competitive>

However, as a private team, we have seen the struggles of many of the public school teams in our area. During the VRC Tipping Point season, many of our county's public school teams performed poorly in comparison to our county's private teams. We realized that this was an unfair situation, as there was a clear cost barrier for many teams. So, we tried to assist these public school teams in as many ways possible during the VRC Spin Up Season. We scrimmaged with numerous public school teams, including 80509X from Stone Hill Middle School, offering up our competition field so that they could get more driver practice before the state championship.



Team 71999A scrimmaging with public school team 80509X

As the VRC Spin Up season came to a close, our team members were approached at several competitions by members of public school teams. They said that they wished they had more funding so that they could build better robots. It became very clear to us that low-income and underprivileged members of our community were not receiving equitable access to STEM education, and this was a huge problem.

So, we decided to take action.

After we were declared tournament champions at the 2023 VEX Robotics Virginia State Championship, we were recognized by numerous publications, including *Loudoun Now*. Many people in our community heard about VEX Robotics for the very first time, and we realized that we could use our successes to advocate for funding for our county's public school STEM programs.



Team 71999A featured in *Loudoun Now*

Just before we attended the world championship, we were recognized for our achievements by the Loudoun County Board of Education, where we lead the delegation in the pledge of allegiance. We also used this opportunity to spotlight STEM education to our local government, noting the importance of funding for our county's public school robotics teams.



https://youtu.be/hD_UvYa7rAc

Video of team 71999A being recognized by Loudoun County Board of Education member Ian Serotkin

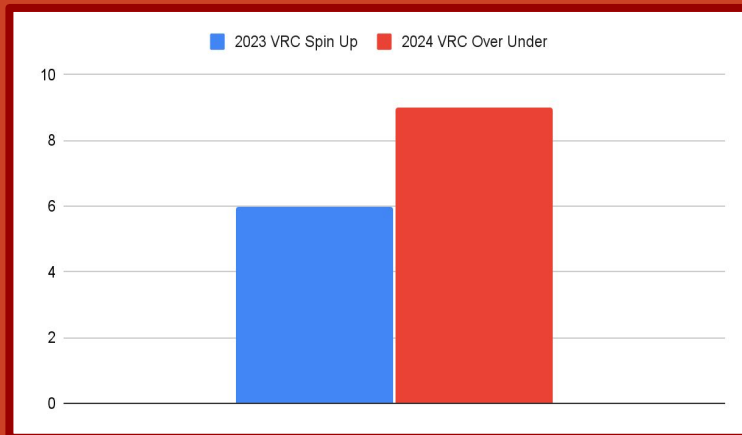


Team 71999A meeting with the Loudoun County Board of Education

These advocacy efforts to our local government have helped spark a renewed interest for STEM education in our community. Since our meeting with the local government, Loudoun County has funded numerous STEM initiatives in our area, including a \$4 million investment for a new children's science center that will help reach over 300,000 students in our region.² Our community has also seen a 50% spike in new robotics teams, and Loudoun County Public Schools has continued to emphasize STEM education in their schools, saying that they are

"building capacity to provide integrated STEM education to all [of their] students."³

Number of New Loudoun County VEX Robotics Teams (by year)



List of New Loudoun County VEX Robotics Teams (by year)

2023 VRC Spin Up	2024 VRC Over Under
9964A	2872X
9964B	32167A
10444A	33114X
20408A	50805H
62876D	50805V
80208K	50805Z
80509X	62876A
	80508Y
	90999X
	95332A



Concept animation of the Children's Science Center at Kincora, funded by \$4 million investment from Loudoun County

²Loudoun County. "Board Allocates \$172 Million in Unspent Funds to Range of Initiatives." *Loudoun County*, 13 Dec. 2023, loudoun.gov/CivicAlerts.aspx?AID=8806

³Timothy, Darielle. "Division of Teaching and Learning: Science." *LCPS*, 10 Jan. 2024, lcp.org/Page/212324

Our county's public school robotics teams have also begun to see more funding. Team 97987A, one of our county's public school teams from Heritage High School, even won the Judges Award at a recent tournament for their resilience in continuing their school's STEM programs. Seeing the students in our county finally receive equitable access to STEM education is truly the ultimate victory for our team. By involving our local government, STEM education programs are thriving in Loudoun County, and we are just getting started. Our team has managed to connect with employees of many STEM companies to help us continue our outreach. We hope that through our continued efforts, we can reach all of the 80,000 students in our county. We can't wait for what the future holds!



Team 71999A after winning the Excellence and Robot Skills Champion awards at a recent tournament

Although our team members are now freshmen in high school, we felt that it was more appropriate to have one of our middle school administrators verify our advocacy work, as most of it occurred while we were still in middle school.

Link to signed statement:

<https://drive.google.com/file/d/1Rrm-Go3v16vtvVmrg5BA2GzP9gtqMY3L/view>



STONE HILL MIDDLE SCHOOL

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January 25, 2024

To whom it may concern,

It is with great pleasure that I write this letter in support of VEX Robotics Team 71999A and their STEM advocacy work. I have known the members of this team for over three years and served as their grade-level dean in middle school.

During that time, I was able to see the group grow in their knowledge and skills and have been excited to see them participate in numerous STEM advocacy activities throughout the community. The team has demonstrated their commitment to the community to continuously learn, help others, and promote interest in STEM education.

One of the most exciting achievements was the team winning the 2023 VEX Robotics Virginia State Championship, which also included recognition by local media outlets. Their win, along with a presentation in front of the Loudoun County School Board, has helped to spark interest in STEM programs and led to a 50% increase in new robotics teams!

I am so proud of the team's accomplishments in promoting STEM education and look forward to hearing more great things as the team continues their work in the future.

Please email me at matthew.frye@lcps.org or call me at (703) 957-4420 with any questions.

Sincerely,

A handwritten signature in black ink that reads 'Matthew Frye'.

Matthew Frye
Dean