

# 2022 PATRON BOOK



# ROLLING THUNDER

# ROLLING...

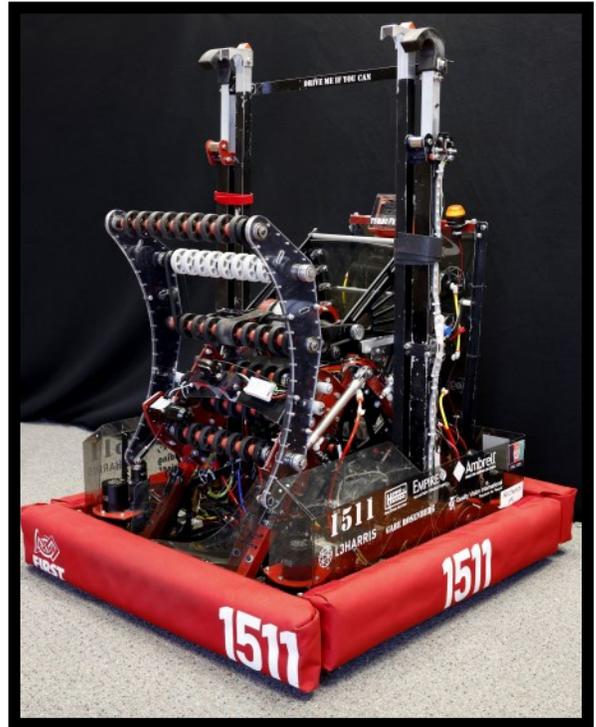
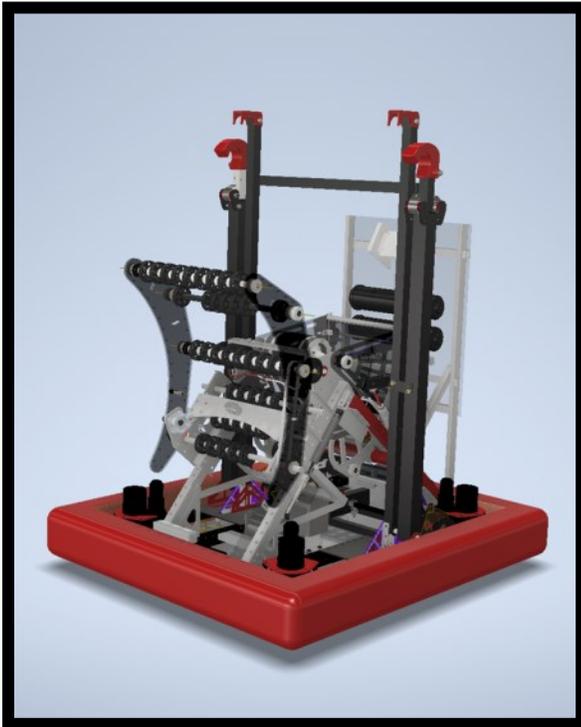


# THUNDER!



Our 2022 Chairman's video can be found at: <https://youtu.be/404uBJWNNw0>

# INTRODUCING OUR ROBOT...



# TURBULENCE!



Our 2022 robot reveal video can be found at: <https://youtu.be/UA7iw7CxPu8>

# ABOUT *FIRST*<sup>®</sup> ROBOTICS

## **FIRST (For Inspiration and Recognition of Science and Technology)**

[FIRST](#) is a robotics community that prepares young people for the future through a suite of inclusive, team-based robotics programs for ages 4-18 (PreK-12) that can be facilitated in school or in structured afterschool programs. Boosted by a global support system of volunteers, educators, and sponsors that include over 200 of the Fortune 500 companies, teams operate under a signature set of *FIRST* Core Values to conduct research, fundraise, design, build, and showcase their achievements during annual challenges.

An international not-for-profit organization (501(c)(3)) founded by accomplished inventor Dean Kamen in 1989, *FIRST* has a [proven impact](#) on STEM learning, interest, and skill-building well beyond high school. [Alumni](#) of *FIRST* programs gain access to exclusive scholarships, internships, and other opportunities that create connections and open pathways to a wide variety of careers.

### **Vision**

*"To transform our culture by creating a world where science and technology are celebrated and where young people dream of becoming science and technology leaders."*

~Dean Kamen, Founder

### **Mission**

The mission of *FIRST*<sup>®</sup> is to inspire young people to be science and technology leaders and innovators, by engaging them in exciting mentor-based programs that build science, engineering, and technology skills, that inspire innovation, and that foster well-rounded life capabilities including self-confidence, communication, and leadership.

### **Methodology**

Engage [PreK-12 \(ages 4-18\) students](#) in exciting, mentor-based, research and robotics programs that help them become science and technology leaders, as well as well-rounded contributors to society.

*FIRST* works because our programs use strategies known to increase student interest in STEM: hands-on learning, working as a team on real-life problems, exposure to careers and adult mentors, emphasis on *FIRST* Core Values, and a culminating celebration where students can showcase what they created and learned.

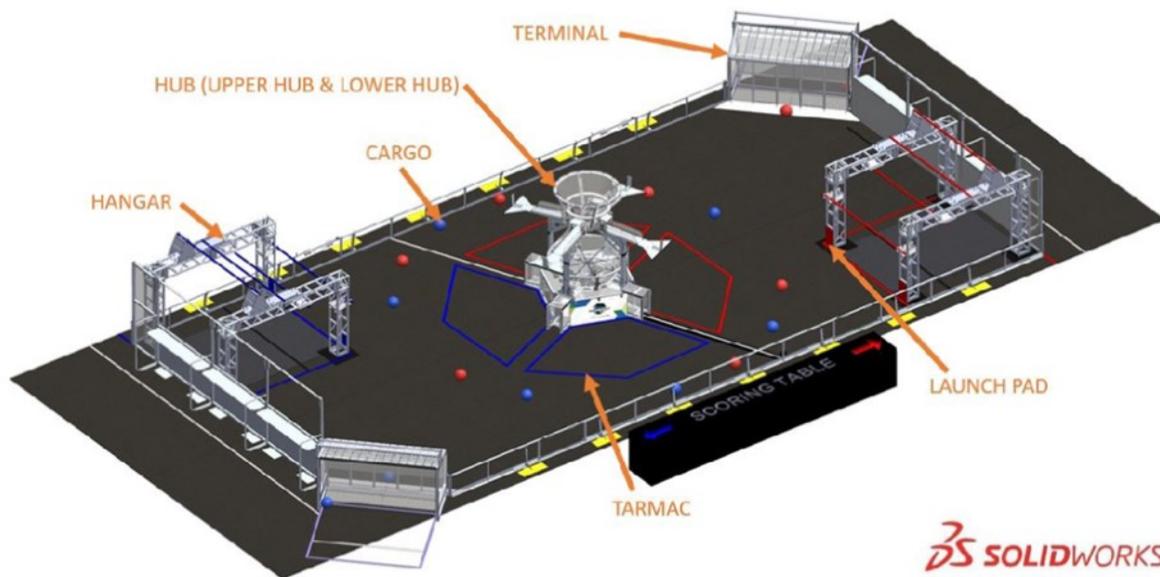
*FIRST* participants also develop skills in teamwork, problem solving, and communication, preparing them for success in school and the workforce, no matter what path they take.



# THE 2022 GAME...

## RAPID REACT™

PRESENTED BY  **BOEING**



 **SOLIDWORKS**  
Modeling Solutions Partner

In RAPID REACT<sup>SM</sup> presented by The Boeing Company, two competing alliances are invited to process cargo for transportation. Each alliance is assigned a cargo color (red or blue, based on alliance affiliation) to process by retrieving their assigned cargo and scoring it into the hub. Human players assist the cargo retrieval and scoring efforts from within their terminals. In the final moments of each match, alliance robots race to engage with their hangar to prepare for transport!

Each match begins with a 15-second autonomous period, during which time alliance robots operate only on pre-programmed instructions to score points by:

- taxiing from their tarmac and
- retrieving and scoring their assigned cargo into the hub.

In the final 2 minutes and 15 seconds of the match, drivers take control of the robots and score points by:

- continuing to retrieve and score their assigned cargo into the hub and
- engaging with their hangar.

The alliance with the highest score at the end of the match wins!

**FIRST® ROBOTICS**  
**TEAM 1511**  
**ROLLING THUNDER**

**CELEBRATING 18 YEARS WITH...**



**L3HARRIS™**  
FAST. FORWARD.



**THE THUNDER JUST KEEPS GETTING LOUDER**



At L3Harris, we are more than just a proud supporter of the *FIRST*® Robotics Program. . .



**WE LIVE**  
**FOR THIS**  
**STUFF.**



**L3HARRIS™**

# MEET OUR STUDENTS



**Leadership Team:**  
*Nicole, Hailey, Jackson, Marisa,  
 Ishan, Nick, Isaac, Jacob*



**Richie B**  
 Grade 12  
 Marketing Subteam



**Audrey B**  
 Grade 10  
 Mechanical Subteam  
 Outreach Subteam



**Olga C**  
 Grade 9



**Joey C**  
 Grade 9  
 Mechanical Subteam



**Ben D**  
 Grade 11  
 Secondary Drive Team  
 Programming Subteam



**Calla D**  
 Grade 10  
 Secondary Drive Team  
 Pit Crew  
 Programming Subteam  
 Outreach Subteam



**Chairman's Award Presenters:**  
*Jacob, Nick, Kadence*



**Walter E**  
 Grade 11  
 Marketing Subteam



**Hannah F**  
 Grade 9



**Sam H**  
 Grade 10  
 Chairman's Subteam



**Stella J**  
 Grade 9  
 Secondary Drive Team



**Jacob K**  
 Grade 11  
 Leadership: Events  
 Chairman's Presenter  
 Outreach Subteam

# MEET OUR STUDENTS (CONT.)



**Hailey L**  
Grade 11  
Leadership: *FIRST*,  
Treasurer  
Mechanical Subteam  
Outreach Subteam



**Alex L**  
Grade 12  
Strategy Lead  
Mechanical Subteam



**Nicole L**  
Grade 12  
Leadership: Team Captain  
Primary Drive Team  
End Game Lead  
Mechanical Subteam  
Outreach Subteam



**Primary Drive Team:**  
*Elliot, Ishan, Isaac, Nicole*



**Peter L**  
Grade 11  
Pit Crew  
Programming Lead  
Mechanical Subteam



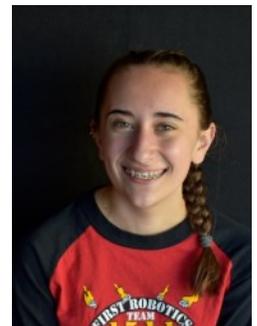
**Robby L**  
Grade 9  
Mechanical Subteam



**Nick L**  
Grade 11  
Mechanical Subteam



**Tanner M**  
Grade 12



**Kadence O**  
Grade 11  
Chairman's Presenter  
Pit Crew  
Game Piece Lead  
Mechanical Subteam  
Outreach Subteam Lead



**Seniors:**  
*Trevor, Ishan, Nevin, Alex,  
Richie, Nicole, Isaac, Tanner*



**Berkeley P**  
Grade 11  
Mechanical Subteam



**Ishan R**  
Grade 12  
Leadership: Students  
Primary Drive Team  
Programming Lead



**Colin S**  
Grade 11  
Controls Lead  
Mechanical Subteam

# MEET OUR STUDENTS (CONT.)



**Pit Crew:**  
*Peter, Trevor, Nadia,  
Nevin, Marisa, Kadence, Calla*



**Morgan S**  
Grade 10  
Programming Subteam



**Nick V**  
Grade 11  
Leadership: Media  
Chairman's Presenter  
Secondary Drive Team  
Game Piece Lead  
Mechanical Subteam



**Jackson W**  
Grade 11  
Leadership: Marketing



**Elliot W**  
Grade 11  
Primary Drive Team  
Chairman's Video Lead



**Isaac W**  
Grade 12  
Leadership: Subteams  
Primary Drive Team  
Robot Project Lead  
Electrical Lead  
Mechanical Subteam



**Trevor W**  
Grade 12  
Pit Crew  
Programming Lead



**Griffin W**  
Grade 10



**Nevin W**  
Grade 12  
Pit Crew  
Drive Base Lead  
Mechanical Subteam  
Outreach Subteam



**Nadia Z**  
Grade 10  
Pit Crew  
Programming Subteam  
Outreach Subteam  
Chairman's Subteam



**Marisa Z**  
Grade 11  
Leadership: Advocacy  
Pit Crew  
End Game Lead  
Mechanical Subteam  
Outreach Subteam  
Chairman's Subteam



**Strategy Lead & Secondary Drive Team:**  
*Alex, Calla, Nick, Ben, Stellaluna*

Not Pictured:  
**Daniel M**  
Grade 11  
Programming Subteam

# MEET OUR MENTORS



Amy Averill\*



Eric Averill\*



Dave Burlone\*



Mark Byers



Cynette Cavaliere



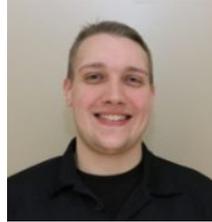
Tom Cavaliere



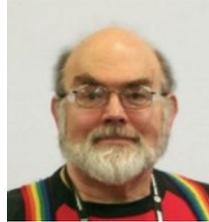
Jeff Downs



Sarah Friscano\*



Josh Goodman~



John Hall (Bear)



Atriso Hasting~



Geoffrey Hastings~



Hugh Hastings



Eric Heinen



Rohan Khaleel



Roseanne Khaleel



Jimmy Kommeth



Jason Kuberka~



Amy Leute



Larry Lewis+



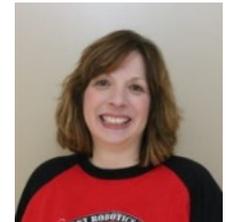
Leann Lewis



Paula Looman



Kristi McOmber



Lisa Paille



Ralph Pizzo^



Chris Sowden~



Janet Sowden



Christian Stoeckl



David Weisbrod^

+Lead Mentor ^Teachers \*L3Harris Employees ~1511Alumni

Visit the mentor page on our website:

<https://penfieldrobotics.com/mentors/>

to see what our mentors do for the team!

# AWARDS

## 2022

### **RAPID REACT**

Finger Lakes Regional  
Rochester, NY  
March 9-12

### **Excellence in Engineering Award**

**Dean's List Finalist:**  
Nick Vessa

**Volunteer of the Year:**  
Larry Lewis

Greater Pittsburgh  
Regional, California, PA  
March 16-19

### **Regional Chairman's Award**

*FIRST* Championship  
Houston, TX  
April 23-26

### **Chairman's Award Finalist**

## 2018

### **POWER UP**

Midwest Regional  
Chicago, IL  
April 6-7

### **Imagery Award**

## 2021

### **INFINITE RECHARGE (2021)**

*FIRST* Innovation Chal-  
lenge - Oxygen Group

### **Semi-Finalist Award**

Game Design Challenge -  
Cobalt Group

### **Concept Award**

INFINITE RECHARGE at  
Home Challenge -  
Chromium Group

### **Quality Award**

### **Dean's List Finalist:**

*(New York & Quebec  
Region Awards Event)*

Nicole Leute

## 2017

### **STEAMWorks**

Finger Lakes Regional  
Rochester, NY  
March 16-18

### **Chairman's Award**

### **Dean's List Finalist:**

Jordan Sayegh

### **Woodie Flowers Finalist:**

Cynette Cavaliere

Midwest Regional

Chicago, IL  
March 31-April 1

### **Regional Winner**

### **Engineering Inspiration Award**

Championship

St. Louis, MO

April 27-29

### **Championship**

### **Subdivision Winner:**

Curie

## 2020

### **INFINITE RECHARGE**

Miami Valley Regional  
Fairborn, OH  
February 26-27

### **Chairman's Award**

Finger Lakes Regional  
Rochester, NY

March 12-14

*(Season Suspended)*

## 2016

### **Stronghold**

Greater Toronto  
Central Regional  
March 3-5

### **Regional Finalist**

### **Chairman's Award**

Finger Lakes Regional

Rochester, NY

March 24-26

### **Imagery Award**

### **Dean's List Finalist:**

Amal Elhelw

### **Woodie Flowers**

### **Finalist**

Championship

St. Louis, MO

April 28-30

### **Championship**

### **Subdivision Winner:**

Curie

## 2019

### **DESTINATION: DEEP SPACE**

Festival de Robotique  
Montreal, QC

February 28-March 2

### **Regional Finalist**

### **Imagery Award**

Finger Lakes Regional

Rochester, NY

March 14-16

### **Spirit Award**

### **Dean's List Finalist:**

Kyle Berg

## 2015

### **Recycle Rush!**

Festival de Robotique

Montreal, QC

March 19-21

### **Chairman's Award**

Finger Lakes Regional

Rochester, NY

March 26-28

### **Spirit Award**

### **Dean's List Finalist:**

Tess Kremer

# AWARDS (CONT.)

## 2014

### ***Aerial Assist***

NY Tech Valley Regional  
Troy, NY  
March 13–15

### **Engineering Inspiration Award**

Finger Lakes Regional  
Rochester, NY  
March 27–29

### **Chairman's Award**

## 2013

### ***Ultimate Ascent***

Finger Lakes Regional  
Rochester, NY  
February 28–March 2

### **Gracious Professionalism Award**

**Dean's List Finalist:**  
Ciana Robertson

**Woodie Flowers Finalist:**  
Larry Lewis

Boston Regional  
Boston, MA  
March 21–23

### **Regional Winner Industrial Safety Award Gracious Professionalism Award**

## 2012

### ***Rebound Rumble***

Finger Lakes Regional  
Rochester, NY  
March 8–10

### **Innovation in Control Award**

**Dean's List Finalist:**  
Justin Byers

**Woodie Flowers Finalist:**  
Jeff Downs

**Volunteer of the Year:**  
Larry Lewis

Connecticut Regional  
Hartford, CT  
March 29–31 2011

### **Engineering Inspiration Award**

## 2011

### ***Logo Motion***

Finger Lakes Regional  
Rochester, NY  
March 3–5

### **Gracious Professionalism Award**

**Dean's List Finalist:**  
Jason Kuberka

Washington DC Regional  
Washington, DC  
March 24–26

### **Chairman's Award**

## 2010

### ***Breakaway***

Finger Lakes Regional  
Rochester, NY  
March 4–6

### **Engineering Inspiration Award**

Boston Regional  
Boston, MA  
March 25–27

### **Regional Finalist**

### **Chairman's Award**

### **Coopertition Award**

**Dean's List Finalist:**  
Crystal Vongnaphone

Championship  
Atlanta, GA  
April 15–17

### **Quarter Finalist: Curie**

## 2009

### ***Lunacy***

Finger Lakes Regional  
Rochester, NY  
March 5–7

### **Regional Finalist**

### **Kleiner, Perkins, Caufield & Byers Entrepreneurship Award**

Chesapeake Regional  
Chesapeake, MD  
March 19–21

### **Imagery Award**

### **Website Award**

### **Chairman's Award**

Championship  
Atlanta, GA  
April 15–18

### **International Judges Award for Integrated Performance**

## 2008

### ***FIRST Overdrive***

Finger Lakes Regional  
Rochester, NY  
March 6–8

### **Engineering Inspiration Award**

Philadelphia Regional  
Philadelphia, PA  
April 16–20

### **Imagery Award**

### **Safety Award**

## 2007

### ***Rack 'n Roll***

Finger Lakes Regional  
Rochester, NY  
March 9–11

### **Chairman's Award**

Boston Regional  
Boston, MA  
March 22–25

### **Team Spirit Award**

### **Website Award**

# AWARDS (CONT.)

## 2006

### ***Aim High***

Finger Lakes Regional  
Rochester, NY  
March 9–11

### **Engineering Inspiration Award**

Boston Regional  
Boston, MA  
March 23–25

### **Imagery Award**

## 2005

### ***Triple Play***

Finger Lakes Regional  
Rochester, NY  
March 3-5

### **Rookie All-Star Award**

Buckeye Regional  
Cleveland, OH  
March 24-26

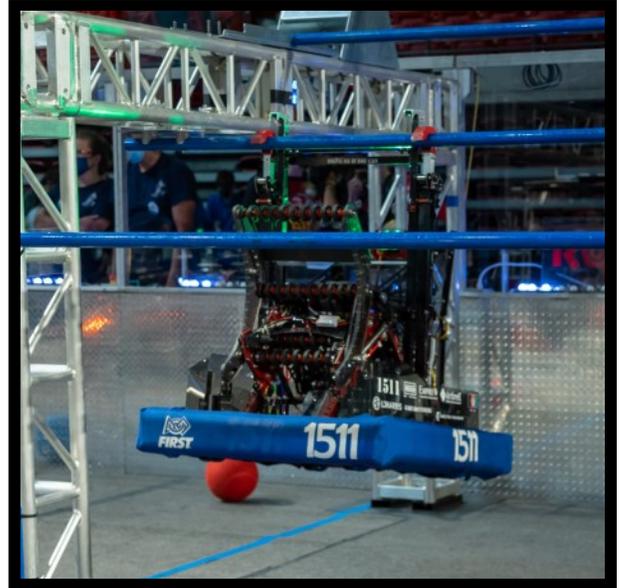
### **Highest Seeded Rookie Award**

Greater Toronto Regional  
Toronto, ON  
March 31-April 2

### **Regional Champions Rookie Inspiration Award Team Spirit Award**

Championship  
Atlanta, GA  
April 21-23

### **Rookie All-Star Award**



*2022 Robot "Turbulence" hanging from the high rung of the hanger during end game.*



*Team 1511 at the 2022 Greater Pittsburgh Regional, where they received the Chairman's Award.*

# CHAIRMAN'S EXECUTIVE SUMMARY 2022

**Describe the impact of the *FIRST* program on team participants within the last 3 years. This can include but is not limited to percentages of those graduating high school, attending college, in STEM careers, and in *FIRST* programs as mentors/sponsors.**

Since 2019, 100% of 1511 students graduate, go to college and pursue STEAM careers. 1 in 5 alumni are mentors: 11 mentor 1511. Alumni work at NASA, Toyota, and our main sponsor [L3HARRIS](#). We develop leaders through outreach, advocacy on Capitol Hill and 1511 curricula. We train in CAD, 3D printing, project management and public speaking. Lifelong friendships grow from team traditions: LAN parties, shamrock shakes and breakfast for dinner. Our strong foundation prepares STEAM and *FIRST* leaders.

**Describe your community along with how your team addresses its unique opportunities and circumstances.**

Penfield is a suburb of Rochester, NY with the largest wealth gap border in the US between us and the city. We use our resources to provide underserved groups STEM opportunities such as robot demos, programming EV3s, STEM kits, STEM Nights, FLL camps & FLL team mentorship. Through our partnership with Bombas Socks we donated 8500 sock pairs with our STEM kits to a city shelter. We run 20 outreach events/year. Our Make a Difference Day drive donates 1000s of items throughout Greater Rochester.

**Describe the team's methods, with emphasis on the past 3 years, for spreading the *FIRST* message in ways that are effective, scalable, sustainable, and creative. How does your team measure results?**

We are known for our off-season and official events for FLL/FTC/FRC, and presence at community events: Maker Faire, parades, fairs and baseball games; bringing *FIRST* to thousands of people in-person and around the world through live streaming. [Grateful Red Music Fest](#) and Robot Cage Match are innovative events to share *FIRST* with our community and our school faculty. We measure impact by tracking people reached, \$ given, and student advancement - ex. 80% of our FTC students move on to 1511.

**Please provide specific examples of how your team members act as role models within the *FIRST* community with emphasis on the past 3 years.**

We expect all members to be role models. Our 8 Dean's List Finalists, student leaders, advocates & mentors are examples of this. We create a professional environment where students are empowered to lead projects, robot building & events. We run & volunteer at 7 FLL/FTC/FRC events that wouldn't happen without us. We incorporated *FIRST* programs into every Penfield school. As an open source team, our resources are on our website and we share our knowledge at conferences, trainings and 1:1 meetings.

**Describe your team's initiatives to Assist, Mentor, and/or Start other *FIRST* teams with emphasis on activities within the past 3 years.**

We mentor all levels of *FIRST* & assist worldwide. This year, we mentored *FIRST* Global teams Seychelles & Uruguay weekly in their Economics Division projects (Seychelles ranked 10th out of 174!). In 3 years, we mentored 36 *FIRST* teams at weekly meetings 3 days/week; started 42 FLL/FTC teams; awarded over \$11,000 in grants for FLL/FTC/FRC teams. NY Advocacy Conf. teaches FRC teams how to lobby for funds to grow NY *FIRST*. We host an annual All-Rookie Meet & Greet at Champs to help sustain rookies.

## EXECUTIVE SUMMARY (CONT.)

**Beyond starting teams, what initiatives have you done to help inspire young people to be science and technology leaders and innovators? What results have you seen from your efforts in the past 3 years?**

During COVID, our "[We Can Robot](#)" YouTube series taught kids 3D printing, CAD and programming, to continue promoting STEM and *FIRST*. We had 1100+ views across 7 videos. We do STEM Nights at a local housing development for refugee families to increase access to STEM. We developed a Scout Badge curriculum helping over 100 scouts earn robotics badges and started one FLL Jr Scout team. We are at every Penfield school event demoing the robot, resulting in 42 new FLL teams, and FLL/FTC qualifiers.

**Describe the partnerships you've created with other organizations (teams, sponsors, educational institutions, philanthropic entities, etc.) and what you have accomplished together with emphasis on the past 3 years**

Creating partnerships is what we do best! Our 73 sponsors give us stability and connections. Lead committees: off-season event Ruckus, FRC/ FTC/FLL qualifiers. Giving partners: AutismUp, Mega Drive, Golisano Children's Hospital. Youth Programs: Science Museum demo, Scout Badges, STEM Camps. Large *FIRST* exhibits: Maker Faire, NYS Fair, RIT. *FIRST* Teams: Speaking at 771's SWATposium and 2468's TX Advocacy Summit; Running Robotics Relay for a Reason with 578 and Rochester Recharge with 578 & 1559.

**Describe your team's efforts in the past 3 years to promote equity, diversity, and inclusion within your team, *FIRST*, and your communities.**

1511 accepts all team members who want to join and help them find and develop their niche. They represent many learning and physical abilities, races, and gender identities. We are members of PHS' LGBTQ+ Alliance and both *FIRST*'s LGBTQ+ Alliance and *FIRST* For All. Our Achievement System allows students of all economic backgrounds to travel to competition. We provide access to STEM to underserved youth in our community through trainings, super fun activities, Science Nights and STEM kits.

**Explain how you ensure your team and the initiatives you have created will continue to run effectively for the foreseeable future.**

We ensure our team's sustainability by empowering our students to shape THEIR team by incorporating their ideas, with student leaders focused on teaching younger members. Mentors work in areas of the team they are passionate about. We have an extremely low turnover of mentors with an average tenure of 11 years, 9 of which are parents of alumni. We maintain our year round events through our SOPs on our online [Wiki](#), forms, trainings, committees and archive data to secure the future of our events.

**Describe your team's innovative strategies to recruit, retain, and engage your sponsors within the past 3 years.**

*FIRST* Fundraising Toolkit features OUR annual Patron Drive, where students formally present to local businesses to promote 1511 and discuss sponsorship opportunities. We distribute monthly newsletters detailing our events to sponsors and release a Patron Book with an end-of-season publication including advertisements for our sponsors. In an effort to support our sponsors, we purchased hundreds of meals from them to give to essential workers at five different locations to show our appreciation.

## EXECUTIVE SUMMARY (CONT.)

**Highlight one area in which your team needs to improve and describe the steps actively being taken to make those improvements.**

We want to improve our STEM outreach into our community. Part of our team legacy is community service projects that we are passionate about and helping others. Now we want to help the community while bringing *FIRST* to them. What we've done: This year we rebranded our community service subteam as our *FIRST* Outreach subteam. They look at previous events while planning new initiatives to involve STEM education. We've hosted multiple STEM-oriented community service events to achieve our goal.

**Describe your team's goals to fulfill the mission of *FIRST* and the progress you have made towards those goals.**

Our goals include *FIRST* Program Development, Student Leadership Training and STEM classes/training. We run weekly *FIRST* programs year-round which gets STEM to kids of all ages. This led to the start of 42 FLL/FTC teams in the past 3 years. By graduation, every student has planned/led events, worked on the robot, given presentations and promoted *FIRST*. Our strong alumni base provides a constant flow of *FIRST* volunteers. Our 54 events this past year have created a community that values *FIRST*/STEM.

**Briefly describe other matters of interest to the *FIRST* Judges, including items that may not fit into the above topics. The judges are interested in learning about aspects of your team that may be unique or particularly noteworthy.**

The thunder keeps getting louder! Our efforts to make *FIRST* available to every student by active STEM advocacy at all levels of government are having an impact. We have strong relationships with state representatives; one spoke at our NY Advocacy Conference. She invited us to speak before the NY Assembly Education Committee to lobby for a Bill to provide funds for new *FIRST* teams in NY. We are creating real change: Our NYS STEM Day Proclamation was scheduled for 1/24/22! (Postponed due to COVID)



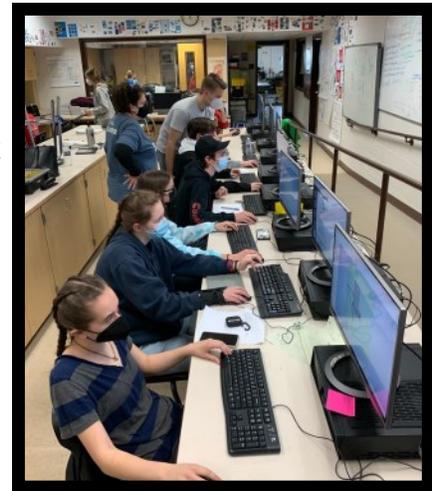
**UPDATE:** We were honored to be with Assemblymember Jennifer Lunsford on May 17, 2022 for the reading of the Legislative Resolution proclaiming November 8, 2022 as STEAM Day in New York State.

# CHAIRMAN'S AWARD ESSAY

Our mission is to share our enthusiasm for STEM to motivate everyone we meet to become champions for *FIRST*. We do this by providing a strong foundation for our future STEM leaders, inspiring our community through STEM awareness & empowering teams to guarantee *FIRST*'s success. Our long-term partnerships with our sponsors, school, *FIRST* teams & community allow us to connect with kids of all ages, abilities and backgrounds, leading many through all levels of *FIRST* to become successful alumni.

## We provide a strong foundation for our future STEM leaders

1511's strong foundation starts by getting kids as excited about *FIRST* as we are. We brought *FIRST* to all Penfield schools, as well as homeschoolers. We partnered with Town Rec Dept. to introduce FLL to the community. In the last 3 years, we started 42 FLL/FTC teams, mentoring 36 at our weekly help sessions, giving them resources to be sustainable. We revamped our FLL camp curriculum to add exciting challenges. More importantly, these camps are low cost and spread across Rochester to bring *FIRST* to underserved & refugee kids.



We don't settle for the status quo; each year students champion new ideas that evolve 1511. Leadership roles are created by students based on interest and current team needs. With mentor guidance, we have authority to make team decisions from t-shirt design to robot strategy. By doing the work, we learn skills that will make us successful in future endeavors. We hone these skills by presenting to the Board of Ed, event planning, and developing relationships with local businesses for support through our Patron Drive fundraiser.

Our innovative preseason curriculum, ThunderTech, features CAD, Safety & Tools Trainings, Engineering Design Process challenges, Mock Build Season and a summer swerve drive project. Team rapport is built through fun, challenging activities: corn mazes, tennis ball launcher designing, laser tag & team picnics.

Our Achievements System rewards effort. Students reduce their costs for competition by participating, such as organizing outreach events or attending weekly meetings. This gives every 1511 student equal opportunity to compete without financial worry.



Our alumni add a new level of mentorship because they understand our perspective. Alumni aren't just mentors; they share advice, expertise and 1511 lore. Our 1511 Alumni Association helps us support them when they mentor & volunteer at *FIRST* events. 1 in 5 of our alumni are *FIRST* mentors; 11 mentor 1511. 90% of our alumni have gone on to STEM majors, working at Toyota, NASA & L3Harris. In memory of an amazing 1511 alum, we created the Tommy Murphy Scholarship, which has helped 7 students in the last 3 years pursue STEM education.

# CHAIRMAN'S AWARD ESSAY (CONT.)

## We inspire our community through STEM awareness

1511 plays an active role in integrating *FIRST* into our community. Our newest innovative event, [Grateful Red Music Fest](#), mixes rock and robots at the town amphitheater. We demo our robot while bands play for an excited crowd of hundreds. We partner with AutismUp and Ronald McDonald House because of our personal team connection to them, raising \$2000. "The event was such a success in its first couple of years that we plan on having the event held again every year."-Town Rec Director.

1511 provides access to STEM virtually. "[We Can Robot](#)" is our informative 7-part YouTube series that kept the community engaged in STEM during COVID with topics like programming, simple machines & advocacy. It had 1100+ views and was shared by *FIRST*! Our events reach a wider audience because they're featured on local news and streamed on Roku, Apple TV, Spectrum TV, Penfield TV, [Twitch](#) & [YouTube](#), reaching 9500+ people in 29 countries.



We focus on high-impact interactive demonstrations to promote *FIRST* to the masses. We run a *FIRST* expo at the Rochester Maker Faire, inviting teams from all levels of *FIRST* to showcase their robots for 1000s. At NYS Fair (10 yrs), we run exhibits in 2 different buildings for 2 days. We talk to as many of the 250,000 visitors as we can about how to start & join teams. NYS Fair introduces *FIRST* to a large non-STEM audience, as do demos at the NYS School Boards Assoc. & Red Wings baseball games. We share *FIRST* with 40,000 attendees at our demos at [Imagine RIT](#), Penfield & Rochester STEAM fairs, [Girls in STEM fair](#) and St.

John Fisher College Day of Science. We average one STEM promotion event per week!

We partner with our school district to make them a champion for *FIRST*. Our school presence includes a mural of our robots, teachers wearing our camo pants, the robot at the homecoming football game and plenty of workspace. Our Robot Cage Match had faculty go head-to-head driving our robots to understand *FIRST* in a fun way! Our new principal became a *FIRST* fan after attending Kickoff! Our Robotics Board of Representatives works with our school board to revise team policies and make sure we're achieving our goals. We continue to work with our district to provide LEGO kits to our schools and coach stipends.



Our longest running service project is the *FIRST* MegaDrive for Make a Difference Day. We donate 3000+ kids' books, toys, food items & school supplies each year. As a Giving Partner with Bombas Socks, we made 1194 STEM kits to go with 8500 pairs of socks (their most needed item) and food to the Rochester homeless. The organization said, "Our partner schools are thrilled to have the opportunity to introduce their students to STEM with such hands-on fun!" These events combine outreach with STEM promotion such as Books and Bots at the library (storytime for kids pre-K to grade

## CHAIRMAN'S AWARD ESSAY (CONT.)

3 with robot demo), STEM Nights for refugee families, and Girl Scout robotics badge trainings that resulted in a FLLJr team!

During COVID, we refocused our energy & resources on our community's immediate needs. We 3D-printed 255 face shields that went to 3 hospitals & 2 nursing homes. A hospital professional said of our shields, "The 1511 design was superior as it afforded greater lateral protection and improved comfort. It seems you went over and above the NIH regulations." To thank our frontline workers, we used the money earned at our Trivia Night to purchase 100s of meals from our sponsors, delivering them to 3 hospitals, a nursing home & an urgent care center. We worked with local businesses to provide 9 carloads of coffee and snacks to hospitals and urgent care facilities.

### We empower teams to guarantee *FIRST*'s success

In the last 3 years, we assisted 74 FRC teams, mentoring 9. We helped *FIRST* teams in 19 countries sustain *FIRST* globally. We sent mentors to China and mentored 4 Chinese teams on all aspects of *FIRST*. We assisted Turkish team 6838 on robot design and outreach. Last summer we mentored Team Seychelles and Team Uruguay in the *FIRST* Global Challenge.



1511 keeps *FIRST* active year-round! In winter we run Rally, a scrimmage for local teams to test and improve their robots before competition. In spring we run All-Rookie Meet and Greet at Champs to help rookie teams with sustainability. In summer we ran Rochester Recharge scrimmage with teams 578 & 1559 to bring *FIRST* competitions back after COVID restrictions were lifted. In fall we run [Rah Cha Cha Ruckus](#), the only off-season event in western NY, where teams recruit and test new pit crews/ drive teams. STEMley Cup and Robot Rumble off-season s were modeled after Ruckus with our resources.

As an open-source team, we help teams be equally competitive and make *FIRST* stronger so that we can make a bigger impact together. We share all that we know and do: we have 6 resources in the *FIRST* Fundraising Toolkit, leadership trainings on our website, a [team wiki](#) with our designs, our CAD in the book "*FIRST* Robots: Behind the Design," and a *FIRST* Updates Now "Behind the Bumpers" video. We've been a control systems beta-test team for 11 years, presenting results at Kickoff. At Champs & Regionals we present on advocacy and leadership. We host Chairman's and Leadership Boot Camps to strengthen local teams. Using our materials, we help them start their own camps.

1511 starts & sustains all *FIRST* programs. We started FTC6996 at our middle school with 80% of alumni joining 1511. Our grant program has given teams \$11,000 (3 yrs) in addition to travel & registration fees we covered. Rumble, our FLL off-season event, keeps teams excited to continue next year. We run & support local FLL/ FTC qualifiers and FLL Champs every year. We saved the 2021 FLL qualifier by making it happen virtually with 100% of the volunteers from 1511.

Our most significant impact is advocating for legislation that funds STEM programs like *FIRST*. We train teams to do the same at the National Advocacy Conference (NAC) and our NY Advocacy Conference (NYAC). NAC & [Student Assoc. for STEM Advocacy \(SASA\)](#)

## CHAIRMAN'S AWARD ESSAY (CONT.)

founder Steve Hyer, "1511 is an integral piece in building a coordinated STEM advocacy effort. They are a mentor and leader to teams across the United States." Our reputation as an advocacy leader has led to cross-country connections. We are SASA charter members, we shared our NYAC resources with FRC2412 to start a WA state conference, and presented our advocacy efforts in Texas. Our work is leading to real change!



We speak to all levels of government to educate them and make them fans of *FIRST*, from the Governor's office to the US Secretary of Education! This year we repeatedly met with NYS Assemblymember Jen Lunsford & our representatives to advocate for [Bill A1219](#), which allocates \$250,000 to start NY *FIRST* teams. Lunsford, "It was inspiring spending time with these engaged young people and I can't wait to host them in Albany."

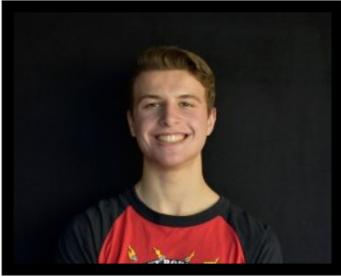
### We are champions of *FIRST*

To motivate everyone to join the *FIRST* effort, we create a strong group of students who will become our future STEM leaders. Those students become part of our community so it values and invests in 1511 and *FIRST*. We help other *FIRST* teams with our resources strengthening them and *FIRST*. With everything we do, the thunder just keeps getting louder!



*Team 1511 students and mentors at FIRST Championship in Houston, TX  
(outside the George R. Brown Convention Center)*

# DEAN'S LIST FINALIST: NICK V



**The student must embody the philosophies of Gracious Professionalism and Coopertition through the FIRST Core Values: Discovery, Innovation, Impact, Inclusion, Teamwork and Fun. Provide examples.**

Nick is 1511's "Hype Master" who is well-liked and respected. He treats everyone he meets as his friend, making everyone feel welcome and included. He listens to his peers and mentors, which makes them feel valued. He always embodies *FIRST* values because he knows he is representing not only himself, but his school, team, and *FIRST*. This makes him an excellent role model to his peers and younger *FIRST* students he mentors.

He emulates alumni who took him under their wing and treated him like an equal. While leading the shooter subteam, he has students do the work WITH him instead of for him, and delegates tasks to pairs of older and newer students to allow cross training. He creates a cooperative effort where everyone feels respected. His enthusiasm for everything he does makes hard work fun!

**The student must demonstrate how they have increased the awareness of FIRST, and have plans to continue to engage with FIRST beyond high school. Provide examples.**

Nick is fully invested in *FIRST*. As our Social Media Coordinator, he has increased our team recruitment and public following by promoting *FIRST* on multiple platforms with frequent, engaging posts that are often reposted by *FIRST* and our school district.

He is heavily involved in our advocacy efforts, meeting with local representatives about funding STEM programs like *FIRST*, and training at the National and NY State Advocacy Conferences. Most recently, Nick confidently spoke to Michael Benedetto, Chair of the Committee on Education, for \$250,000 to start more New York *FIRST* teams. Benedetto was so impressed that he promised to speak to the Committee right after our meeting!

Nick's *FIRST* alumni goals are to volunteer at events and mentor. He wants to teach the next generation of *FIRST*ers!

**The student must have technical expertise, entrepreneurship, and creativity. How does the student's individual contribution to the team benefit the team as a whole in areas of fundraising, outreach, robot build, programming, etc. Provide examples.**

Nick does it all: machine manufacturing, CAD, CNC, MIG welding, 3D printing, even technical writing as a Chairman's essay writer. He takes engineering

courses through Project Lead the Way, earning credits at RIT. He's logged 400+ hours during Build Season and *FIRST* outreach events. Outside robotics, he fixes computers and writes iOS apps. During COVID, he taught himself 2 programming languages, and 3D-printed face shields and delivered coffee and snacks to thank frontline workers.

His 3D printing and CAD skills have gotten so good that he is commissioned for projects, such as Christmas ornaments and an Atari kiosk. His YouTube channel has over 40k views where he teaches photography and videography. He taught himself Photoshop and Premiere Pro, which he uses to produce the Chairman's videos.

**The student's individual contribution to the team benefits the team as a whole in the areas of fundraising, outreach, entrepreneurship, and creativity.**

Nick participates in every aspect of the team. Even during COVID, he was part of every game challenge, a Chairman's presenter, and at every team Zoom.

In the summer, he assembled a new swerve drive, taught Girl Scouts to earn their merit badges and mentored Teams Seychelles & Uruguay during the *FIRST* Global challenge. In fall, he mentors his former FTC team and at FLL Help Sessions, and game announces at our FRC off-season event, Ruckus. In winter, he is refereeing and judging at FTC/FLL competitions.

This year, he focused on team recruitment, creating numerous promotional materials to get the word out, bringing in 25 new members! He went a step further to retain the new recruits by getting them to 1511 events and demos; he knew seeing *FIRST* in action would get them hooked, and he was right!

**Explain the student's leadership to their fellow team members. How do they motivate others? Provide examples**

Nick is the backbone of 1511. He holds several leadership positions with his exemplary work ethic. He often takes on less desirable tasks understanding that they need to be done for the team to reach its goals. When other students see this, it motivates them to step up as well.

He mentors his peers, building relationships with them while they work on the robot or eat dinner. His excited energy is contagious, whether it is a mechanism that finally works or a fun Chairman's presentation idea, he pumps up his teammates!

He plans and runs weekly 1511 meetings just as he did as Sr. Patrol Leader of his Scout troop, leading 60 scouts. He participated in a National Youth Leadership course and because of his enthusiasm, knowledge and leadership, he was selected to be a staff member the next year.

# DEAN'S LIST NOMINEE: MARISA Z



**The student must embody the philosophies of Gracious Professionalism and Coopertition through the *FIRST* Core Values: Discovery, Innovation, Impact, Inclusion, Teamwork and Fun. Provide examples.**

Marisa embodies *FIRST* values by focusing on making other teams equally competitive. She trains about how to lobby for STEM funding across the country, such as at the STEM Advocacy Conference of Texas and the National and NY State Advocacy Conferences. She advises on Chairman's essays, assists teams during our scrimmage to improve their robots, and has helped teams completely build their robots at competitions!

Marisa works hard to make all feel included by treating everyone equally, and is part of the school's Gender and Sexuality Alliance. She is an empath, working one-on-one with team members who need extra attention, which is important when the fast pace can be overwhelming to newcomers. Even when it can get stressful, she keeps it fun by always being up for a spontaneous song and dance.

**The student must demonstrate how they have increased the awareness of *FIRST*, and have plans to continue to engage with *FIRST* beyond high school. Provide examples.**

Marisa has spent half her life in FLL, FTC & FRC. She stays involved in FLL & FTC by mentoring teams and volunteering at many events. She was promoted to FLL Judge and had great questions and made it a positive experience for the kids! She plans to continue to mentor long after she graduates.

She promotes *FIRST* to 1000s through large-scale events like the Maker Faire and Grateful Red Music Fest, engaging the crowd about *FIRST* as she sells raffle tickets to raise money for Ronald McDonald House. She focuses on spreading *FIRST* to young kids like "Books and Bots" at the library where she read a STEM book, helped kids do a robot STEM craft and demoed the robot. The biggest way she promotes *FIRST* is her advocacy work with politicians who can make an impact through legislation for STEM programs.

**The student must have technical expertise, entrepreneurship, and creativity. How does the student's individual contribution to the team benefit the team as a whole in areas of fundraising, outreach, robot build, programming, etc. Provide examples.**

Marisa is technically proficient, bringing mechanical, electrical, programming and robot coaching knowledge

from her FLL and FTC days. On FRC, she brings her CAD and design expertise, leading the Hang Mechanism Design subteam and is on Pit Crew. She is well on her way to her dream of becoming a Biomedical Engineer to design technology that will help kids with disabilities, like her.

Marisa is a changemaker. Her passion for environmental health led her to create the non-profit ROC the Earth, to clean up trash in town, and she presented it to the Town Board at age 8. The Mayor invited her to be part of the town's Energy and Environment Advisory Committee, which she has been on since. She is also part of the New York Youth Climate Leaders, presenting to elected officials on climate change.

**The student's individual contribution to the team benefits the team as a whole in the areas of fundraising, outreach, entrepreneurship, and creativity.**

Marisa's greatest contribution to 1511 is her advocacy work and inspiring others to join the effort. When she was elected to Leadership, she created the Advocacy Leadership role to align with 1511's goals to effect real change. She works with our mentors to set up meetings, create agendas and scripts. She effectively speaks to local and national representatives about our initiatives. Her YouTube Advocacy video, shared by *FIRST*, kept teams' advocacy efforts active during COVID. She helped organize our 2021 NY Advocacy Conference by planning meetings, writing scripts and acting as a facilitator during the meeting. Her bright personality and professionalism has helped us develop invaluable relationships with our local representatives, which has led to the proclamation of a NY State STEM Day!

**Explain the student's leadership to their fellow team members. How do they motivate others? Provide examples.**

Marisa perseveres as a leader and personally. When she is leading a team meeting, writing Chairman's, or building the robot, she overcomes obstacles with grace. When her physical condition limits her, she modifies her work, such as using a tool in a creative way or making parts that can be done sitting down. If she is unable to complete a task, she delegates to make sure it gets done right. Team members see her example and it inspires them to not give up.

Marisa empowers and nurtures; a go-to for pep talks. When she tasked a peer with designing a new pulley system, Marisa let her know she was there for support, giving her the confidence to get it done. The Hang subteam struggled with finalizing their design, but Marisa kept a cool head as Lead, and helped THEM overcome their obstacles.

## WOODIE FLOWERS NOMINEE: ROSEANNE KHALEEL



**The Woodie Flowers Award recognizes an individual who has done an outstanding job of motivation through communication while also challenging the students to be clear and succinct in their communications.**

With a background as an architect, there is no surprise that Roseanne is the foundation of our team.

Roseanne has built our mechanical design process from the ground up over 11 years, with over 400 hours each build season! With her leadership, our build process has focused on giving all students the opportunity to take charge of their ideas and make the process their own. She is always willing to sit down with a student and help them with their work. Whether it's CAD, a shop drawing, or a mental roadblock that needs a new perspective, she equips us with encouragement and problem solving skills not only to find a solution, but to teach us how to navigate through future problems on our own.

By creating robot design co-leads to drive the build process, and pairing new and experienced students, she ensures that knowledge is passed down. She makes "origami" models to guarantee that students fully understand concepts. Her style of showing her ideas has inspired students to carry a similar notebook and sketch out their ideas the same way she does. By ensuring all parts are drawn in CAD, given part numbers, tracked through the shop, and installed on the robot, she creates clear organization and swift communication between all aspects of the build.

Roseanne works hard to make each student feel supported and valued. She even started summer work sessions where students decide what they want to build or learn about, like a swerve drive or a new type of shooter. She takes time to connect with each of us individually. At the end of every season, she hands out personalized awards to every student. They are heartfelt and recognize our personal growth and contributions.

Roseanne was a stable, driving force of our at-home challenges during the 2021 season, keeping our season productive and fun. She oversaw robot improvements and kept our efforts on track (both via Zoom and in-person), all while giving students something to look forward to in an unfamiliar time.

She is a volunteering machine! Donning her red camo Rosie the Riveter headband, Roseanne can be found at our competitions enthusiastically helping other teams in the pits. When she isn't with 1511, she's volunteering at FLL/FTC/FRC events, even international competitions in Canada and China; over 55 events so far!

She has strengthened global connections for our team as she inspires us to pursue STEM and reach beyond our borders to support others. In 2017, she traveled to China to mentor teams at the *FIRST* China International Invitation.

Her continuous communication helped sustain 4 new FRC Chinese teams! This past summer, Roseanne led our effort with *FIRST* Global Teams Seychelles and Uruguay to help them with their Solutions Challenge where she zoomed us all into their meetings to discuss their tidal power generator.

She keeps us motivated, and through her dedication, creativity, and shared expertise provides us building blocks for a future more inspired by STEM.



# OUTREACH



Our [Grateful Red Music Fest.](#) where we mix rock with robots!



Harris Hill Academy Training, where we kickstarted elementary school kids' passion for STEAM!



Our girl scout badge nights, which prove to girls that girls can be STEM leaders too!



Showing our town spirit at Penfield's Independence Day Parade!

Our Books and Bots program where we partner with [Penfield Library](#) to help kids learn about STEM through BOOKS...



Through our partnership as a [Bombas Giving Partner](#), we donated over 2,700 pairs of socks along with STEM kits to [Happy Birthday Cha Cha Cha...](#)



...and ROBOTS!



...and non-perishable items and 2,000 pairs of socks to [Dimitri House](#).

# SPREADING *FIRST*



We hold help sessions for local FIRST LEGO League teams to help them prepare for competitions.



Our FIRST Lego League Discover & Explore programs further FIRST's mission in our town!



We hosted the NY-Excelsior Finger Lakes FIRST Tech Challenge Qualifier at Penfield High in December.



We demoed with other FIRST teams at [Maker Faire Rochester](#), showing off our robot to the community!



We host the Penfield FIRST LEGO League Qualifier at our high school! This gives local teams an opportunity to qualify for the world championship.

# ADVOCACY IN ACTION

## Advocacy Update:

We are advocating for NYS Assembly [Bill A1219](#) to appropriate funds for a grant program to fund high school participation in the *FIRST* programs and encourage study in the fields of science, technology, engineering and math. The bill, co-sponsored by Assemblymembers Jen Lunsford and Gina Sillitti is currently in assembly committee. Senator Samra Brouk has introduced [Bill S9411](#), similar to the Assembly Bill.

As a result of years of advocacy, we were honored to be with Assemblymember Jennifer Lunsford for the reading of the Legislative Resolution proclaiming November 8, 2022 as STEAM Day in the State of New York!



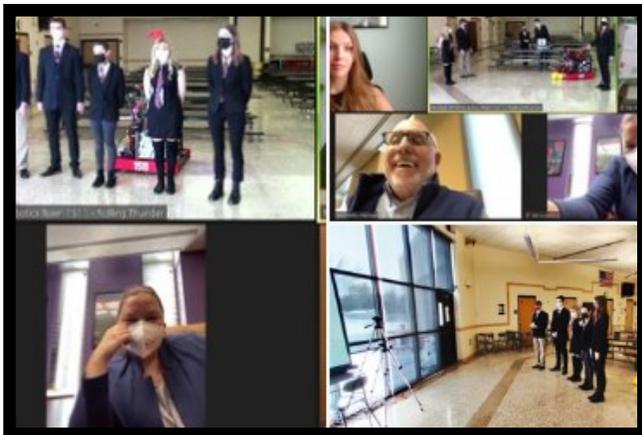
*1511 was recognized in the NYS Assembly Chambers for their amazing leadership, advocacy and hard work in STEAM.*



*The team was able to demo their robot at the NYS Capital on May 17, 2022.*



*Meeting with NYS Assemblymember Harry Bronson in Rochester, NY.*

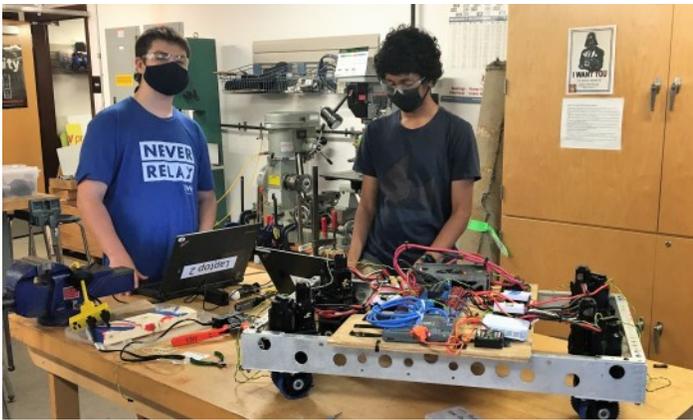


*Virtual meeting with Assemblymembers Michael Benedetto and Jennifer Lunsford to discuss funding for NY FIRST Teams.*

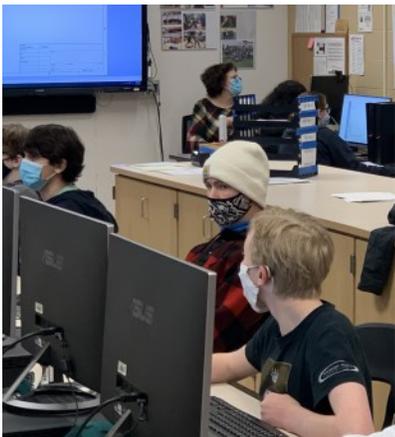


*Students attended the Virtual [National Advocacy Conference](#) last June and were able to attend virtual meetings with U.S. Representatives.*

# TEAM MEETINGS



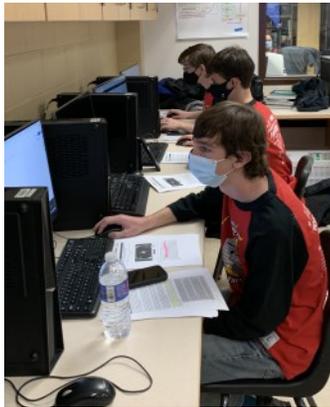
# TEAM MEETINGS (CONT.)



# KICKOFF WEEKEND



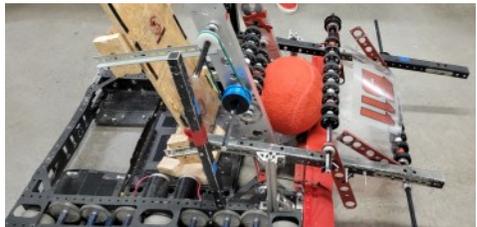
# KICKOFF WEEKEND (CONT.)



# BUILD SEASON



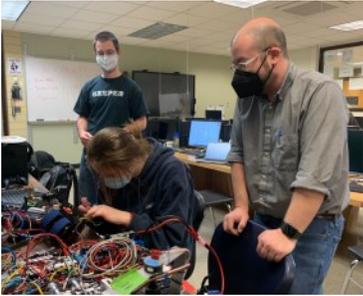
## WEEK 2



## WEEK 3



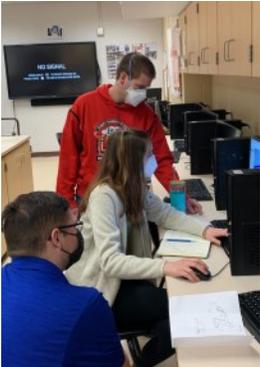
# BUILD SEASON (CONT.)



## WEEK 4



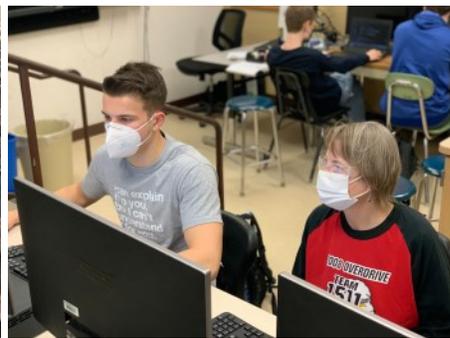
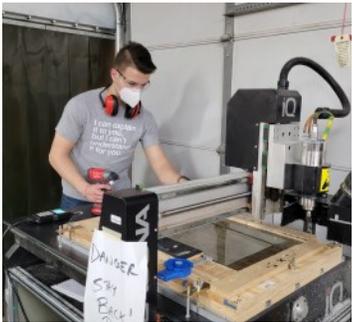
## WEEK 5



# BUILD SEASON



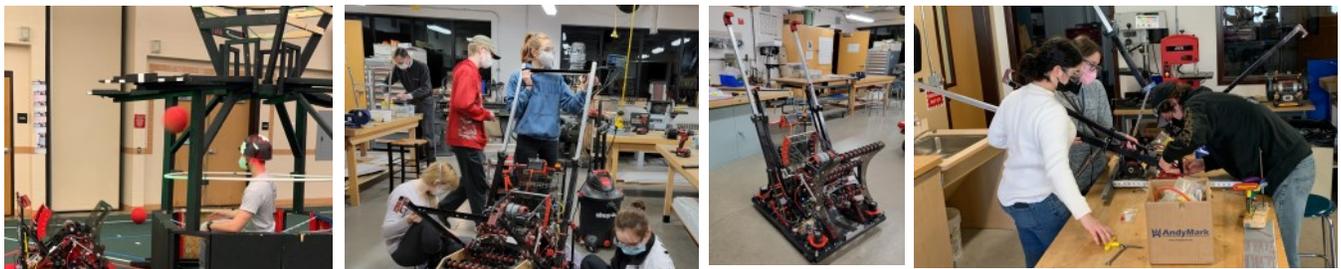
## WEEK 6



# BUILD SEASON (CONT.)



## WEEK 7



## WEEK 8



# RUCKUS OFF-SEASON EVENT



# RALLY OFF-SEASON EVENT



# FINGER LAKES REGIONAL

## MARCH 9 - 12, 2022



# FINGER LAKES REGIONAL (CONT.)



Team 1511 was **Rank 6** with a record of **9-5-0** and won the following awards:

- *FIRST* Dean's List Finalist Award (Nick Vessa)
- Excellence in Engineering Award
- 2022 Volunteer of the Year Award at the Finger Lakes Regional (Larry Lewis)

# GREATER PITTSBURGH REGIONAL MARCH 9 - 12, 2022



# GREATER PITTSBURGH REGIONAL (CONT.)



Team 1511 was **Rank 10** with a record of **7-6-0** and won the following award:

- Regional Chairman's Award

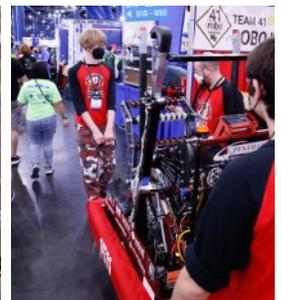
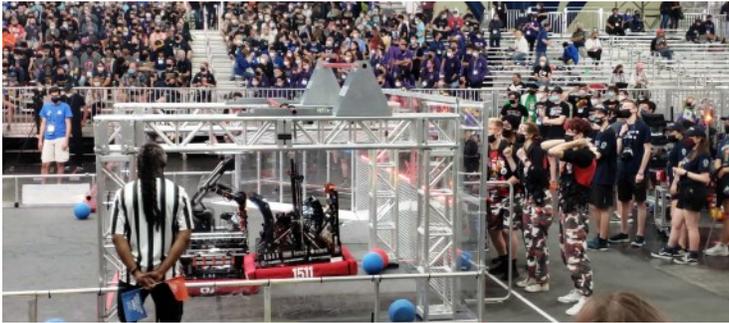
# 2022 *FIRST* CHAMPIONSHIP

APRIL 20-23, 2022

HOUSTON, TX



# 2022 *FIRST* CHAMPIONSHIP (CONT.)



# 2022 *FIRST* CHAMPIONSHIP (CONT.)



Team 1511 was Rank 66 with a record of 4-6-0 (Roebbling Division) and won the following award:

- Chairman's Award Finalist

# IN THE NEWS...



[Interviews](#) for 13 WHAM morning news segments. Thanks to Team 3015 - Ranger Robotics for letting us join them for the morning!



[Interviews](#) for News 8 WROC morning news segments by 1511 alumna Amal Elhelw. We had a great time hanging out with Amal and talking about our team, our robot and *FIRST!*

# TEAM PICNIC



# MEET OUR TEAM SPONSORS



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# CONGRATULATIONS SENIORS



Not pictured - Richie, who will be attending RIT

*Best wishes for the future!*  
*Tom and Cynette Cavaliere*

# GOOD LUCK TEAM 1511

*- Rolling Thunder!*



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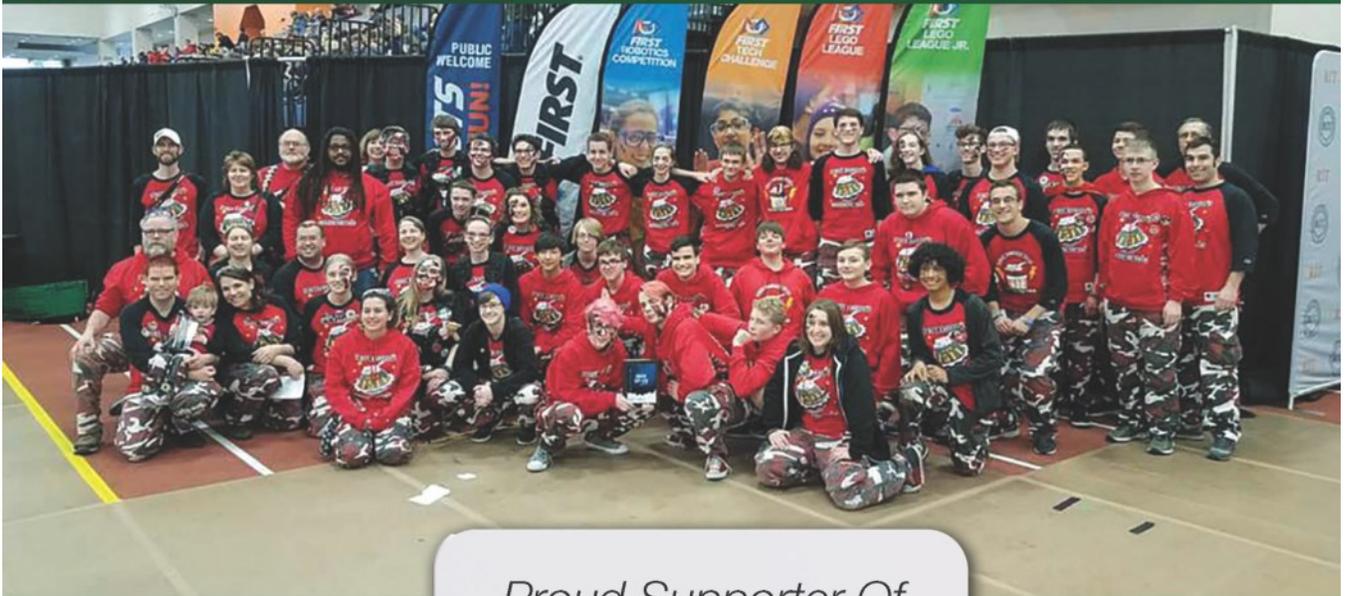


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**Teamwork makes the dream work.**  
*Together, we can achieve more.*



**GO TEAM 1511 ROLLING THUNDER!**



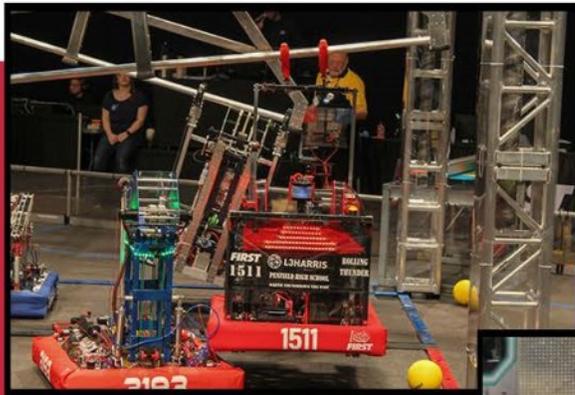
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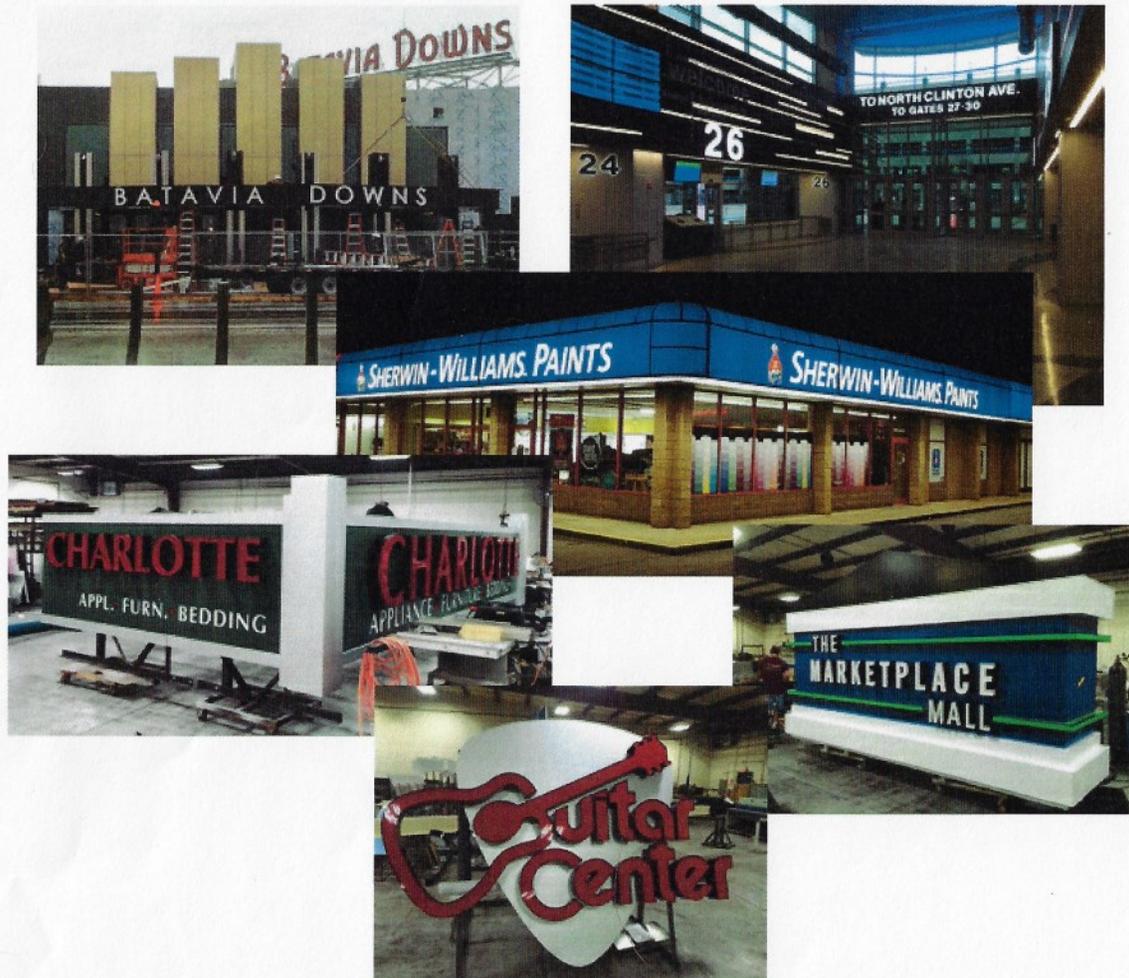
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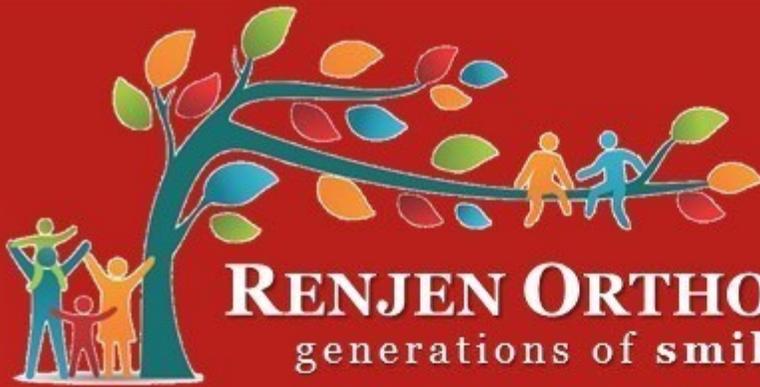


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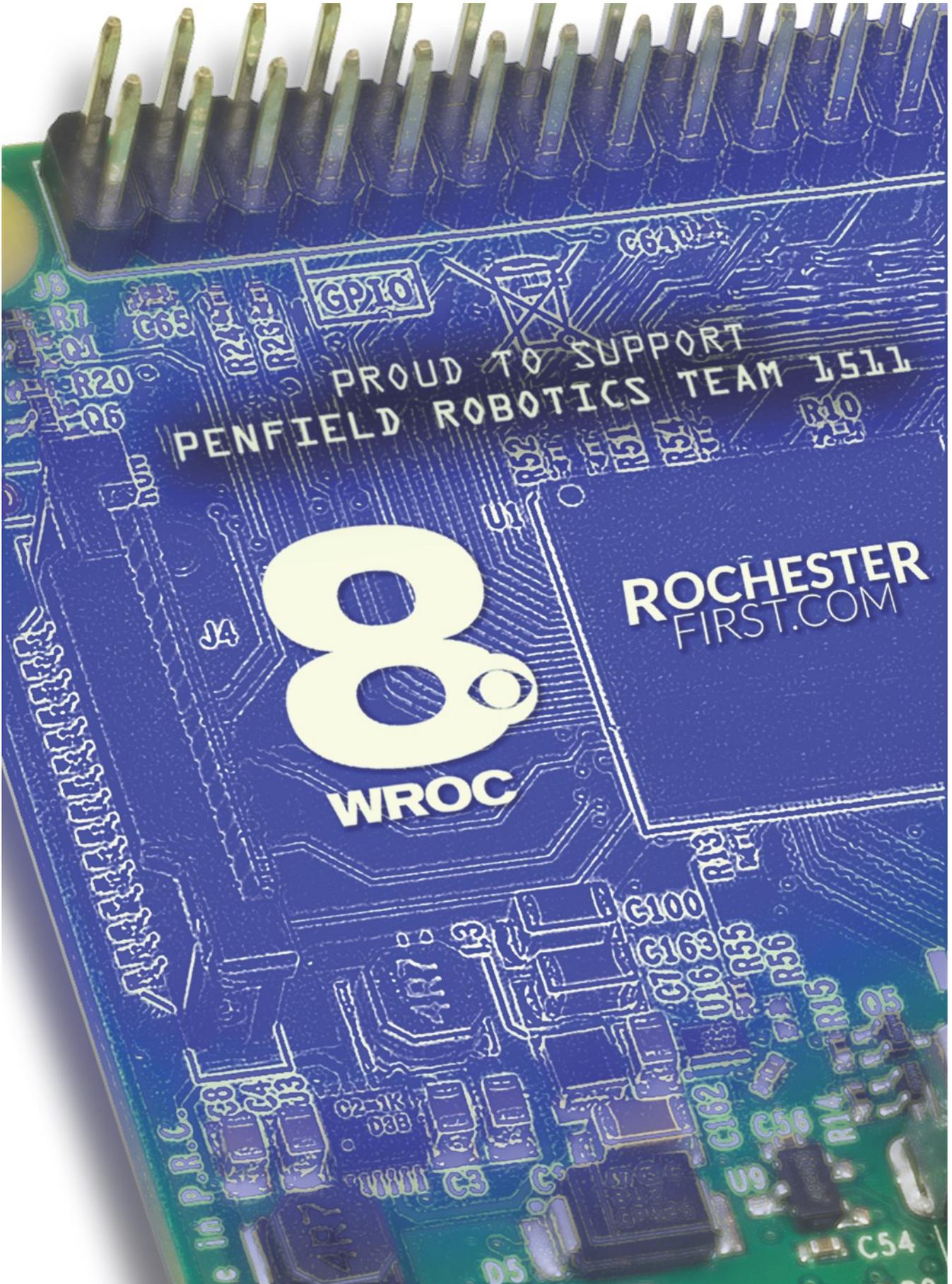
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Trevor,

We are so proud of all that you have accomplished with your Robotics Team over the years. It certainly was not fair how the pandemic affected the outcome of the 2020 season but we are excited for what lies ahead for you and your team this year. Enjoy your senior year! Break a leg...wait no...break a sensor....scratch that...GOOD LUCK AND HAVE FUN!

-Mom, Mike,

Lindsey and Amanda



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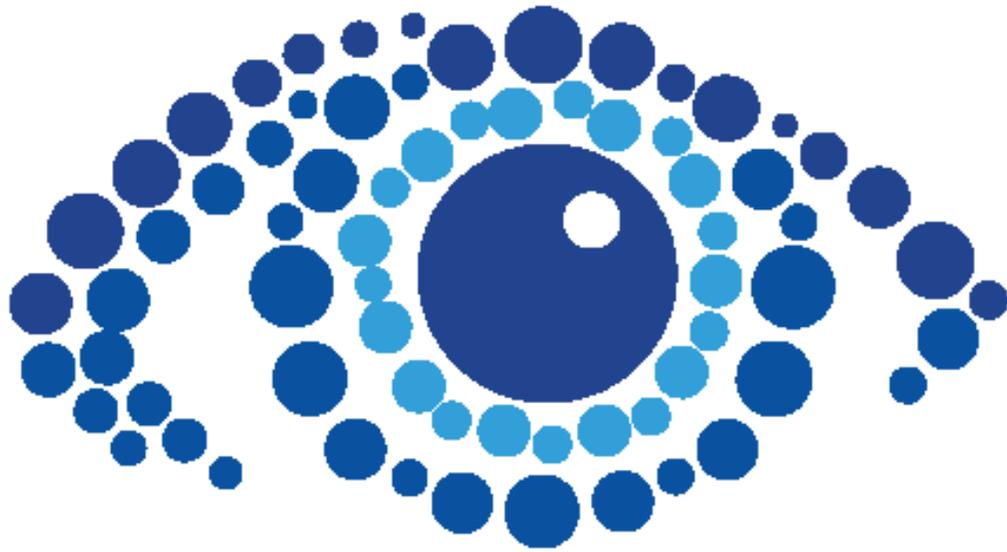
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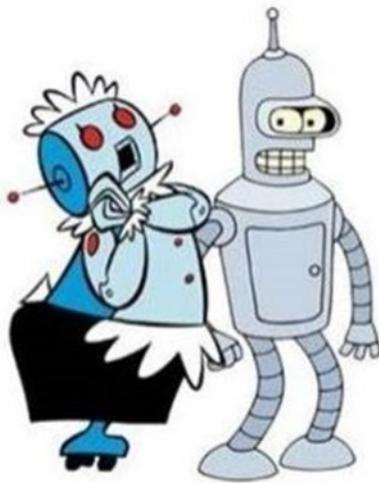




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# GOOD LUCK TREVOR & 1511 ROLLING THUNDER



**NANA AND PAPA  
WILL BE ROOTING  
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*THANK YOU to all the team mentors and volunteers for all your time, guidance and support to the Penfield Robotics Team. Your hard work and dedication is helping to educate and mold our future American Scientists, Engineers, and Technology Experts.*

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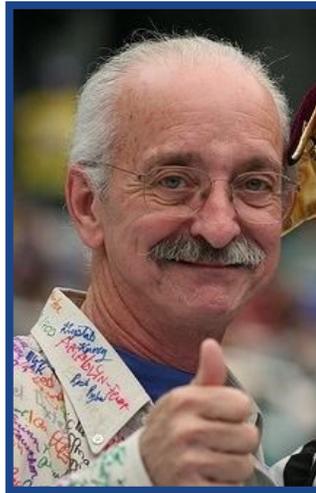
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