

## Chairman's Award - Team 4930

[Print](#)[Close](#)**2019 - Team 4930****Team Number****4930****Team Name, Corporate/University Sponsors**

Unifrax/Sleep Inn/Autodesk/Nichols School/A.Titan/E-assign&amp;Nichols School

**Briefly describe the impact of the FIRST program on team participants with special emphasis on the 2018/2019 year and the preceding two to five years**

100% of our alumni have matriculated with 92% pursuing STEM. Among them, our first team captain founded an organization focused on making STEM education videos. He was recognized in Huffington Post's "20 under 20" where he credited FRC4930 as his inspiration, and reached out to 20+ million subscribers globally. Other alumni have returned to speak at our school and even mentor other FIRST teams. Our program teaches students leadership with a focus on logistics and an emphasis on FIRST ideals.

**Describe the impact of the FIRST program on your community with special emphasis on the 2018/2019 year and the preceding two to five years**

Annually we host Major Drive where we collect donations from other FIRST teams, our school, and our community to help solve an issue specific to Buffalo. We have collected clothes for refugees, toiletries for homeless families, and this year we are collecting school supplies for Buffalo city students in need. We also sewed 575+ surgical caps featuring kids cartoon characters and donated them to a local children's hospital. We worked with our school and a local retirement community to make hats.

**Team's innovative or creative method to spread the FIRST message**

Our unique way to spread FIRST is Mock-Kickoff. We invite potential, rookie, and veteran teams to participate in a build season simulation. We start with a past year's game animation, read the rules, and end with match footage and lessons learned. This event shows what FIRST is about while successfully forming multiple FRC teams and helping FTC teams step up to FRC. This is one of many efforts that led us to form the Buffalo FIRST Family, to start and sustain FIRST teams and events.

**Describe examples of how your team members act as role models and inspire other FIRST team members to emulate**

Last year we founded the leadership board of the Buffalo FIRST Family, BFF. Created in 2015 by our founding mentor turned Regional Senior Mentor, BFF starts and sustains new FIRST teams and events with a unified community at all levels of FIRST. 2 of our mentors sit on the board as Regional FLL and FTC directors. We host help sessions, kickoffs, scrimmages, and the Buffalo FLL Qualifier. We also host BFF's Unofficial Kickoff (UnKickoff) where we offer a Kit of Parts Pickup and a rookie build.

**Describe the team's initiatives to help start or form other FRC teams**

We've started 100% of sustainable FRC teams in Buffalo and 60% in Western New York (WNY). Last year we formed FRC6870, hosted them in our shop for Build Season, provided them with equipment, mentors, funding, and connected them to new sponsors. This effort was recognized at the Finger Lakes Regional (FLR) where they won Rookie Inspiration. We also started FRC5590 in our second year, who hosts a scrimmage field in Buffalo. Both teams were initiated through their participation in Mock Kickoff.

**Describe the team's initiatives to help start or form other *FIRST* teams (including Jr.FLL, FLL, & FTC)**

We've started 60% of FTC teams in Buffalo and 40% in WNY. Also, we've started almost 50% of the FLL teams in Buffalo and 29% in WNY. We do this via major outreach events like the Erie County Fair (ECF) where we demoed FLL, FTC, and FRC on full fields for 8 hours a day over 14 days to 1.2 million visitors. Our primary focus is always sustainability, aiming to start teams that will create other teams with the ultimate goal to expand FIRST in Buffalo. 4930 sustains 8 FTC and 17 FLL teams in WNY.

**Describe the team's initiatives on assisting other *FIRST* teams (including Jr.FLL, FLL, FTC, & FRC) with progressing through the *FIRST* program**

Since many schools in WNY cannot afford FRC, we have developed an FTC-to-FRC pipeline. It focuses on starting FTC teams and helping them become sustainable FRC teams. Currently, FTC teams attend Mock Kickoff and tour our shop to learn about FRC. We also host FLL and FTC help sessions to teach new skills and move them through the FIRST program. An FLL team we support earned a \$10,000 grant to start a FTC team next season. Our team helps grow and sustain all 30+ BFF teams.

**Describe how your team works with other *FIRST* teams to serve as mentors to younger or less experienced *FIRST* teams (includes Jr.FLL, FLL, FTC, & FRC teams)**

We lead the BFF to spread opportunity through events, like the Thunder Over Niagara Air Show, ECF, and InfoTech Niagara BETA awards, inviting every team to attend. At competition, our students form Shock Teams to help other teams pass inspection and compete. At FLR 2018, our Shock Teams helped 1 in 10 teams at the event. In 2017, we helped FRC4023 at FLR, and continue to help with fundraising, recruiting mentors, and sponsoring a trip to an offseason to increase student retention.

**Describe your Corporate/University Sponsors**

Nichols School sponsors our 2 FLL, 2 FTC and FRC teams with \$30,000 annually. Nichols took on our 2 FTC teams in the form of an engineering elective class. They also provide winter sports credit to FRC students. Recently, our school converted a large basement into a workshop shared amongst all of our FIRST teams, allowing us to accomplish horizontal and vertical integration and learning. Nichols also donates venue space for all of our large events such as the FLL qualifier and Mock Kickoff.

**Describe the strength of your partnership with your sponsors with special emphasis on the 2018/2019 year and the preceding two to five years**

As an independent school, we are not allowed to freely seek outside monetary sponsorship. Nonetheless, we have built strong partnerships with many Industry Sponsors, like Unifrax and A-Titan, who donate materials, tools, and services to our shop. We also work with Mentorship Partners, like Verizon, Keybank, and Roswell, who provide us with valuable mentors, demonstration opportunities, and educational resources that give our students real world problem solving skills and knowledge.

**Describe how your team would explain what *FIRST* is to someone who has never heard of it**

FIRST is a powerful partnership between students, mentors, and industrial sponsors to create a culture where science and technology professionals are celebrated among athletes and celebrities. FIRST believes that every student can discover a personal interest in STEAM and have opportunities to "go pro". FIRST engages students to use real-world problem-solving tactics, teamwork, and communication skills, as well as knowledge obtained from classrooms such as physics, math, and engineering.

**Briefly describe other matters of interest to the *FIRST* judges, if any**

Last spring we hosted an FTC offseason called Mayhem in May at the Infotech Niagara BETA Awards. There were 8 local FTC teams, and an FRC demo with a comedian in front of 400+ STEM business leaders seeking to support STEM education. We were nominated as the Best Tech Education Program in WNY and, because of this event, starting in the 2020 season a new sponsor will donate \$500 annually to every FRC team in Buffalo. We have been invited back to host Mayhem in May again with more teams.

**Team Captain/Student Representative that has double-checked this submission.**

Anuraag Kumar

## Essay

4/19 Today I was elected Team Captain on FRC4930 Electric Mayhem's student leadership team. As leaders we inspire our team to attain success, learn life skills, and spread passion for STEAM. We help our subteams succeed and coordinate everything from robot design to spreading FIRST.

4/26 Today I led a demo at General Motors' Bring Your Kids to Work Day. We ended the day of STEAM-focused learning by demoing 2 of our robots to everyone. It was exciting to introduce kids to STEAM and FIRST!

5/3 Today I attended Infotech Niagara's 2018 BETA Awards, where we were nominated as the Best Educational Tech Program in Western New York (WNY). We took this opportunity to host an FTC offseason, Mayhem in May, with 8 teams and an FRC demo before 400+ potential sponsors. Our mentors spoke to attendees about starting FIRST teams and, beginning in the 2020 season, a new sponsor will annually donate \$500 to every FRC team in WNY due to our efforts.

5/6 Today we spread the #FIRSTBuffaLove by attending FRC378's Pancake Breakfast fundraiser. By supporting our Buffalo FIRST Family (BFF) members we empower our region. Our team founded the BFF Leadership Board last spring to start new FIRST teams and events in WNY. 2 of our mentors serve as Regional FTC and FLL Directors, hosting help sessions, kickoffs, and official tournaments. BFF supports an FLL Jr., 17 FLL, 8 FTC, and 6 FRC teams, emphasizing starting and sustaining new teams.

5/8 Today I presented to a group of college professors, graduate students, and tech business leaders about our senior thesis projects and 2018 robot. Our cutting-edge code and sensor use got us noticed by industry professionals!

6/9 Today we demoed to 150,000+ people at the Thunder Over Niagara Air Show in their STEM Education Expo. It was so great to share this opportunity with our BFF FRC1507!

7/9 Today I mentored WNY students at our FTC camp where we built FTC robots in 2 weeks. With time and resource constraints, we emulated the challenges of build season. These camps recruit students and teach them new engineering skills. Hundreds have attended our camps over the last 4 years.

8/19 Today was a long day! For the past 14 days, we demoed FLL, FTC, and FRC for 8 hours a day to 1.2+ million people at the Erie County Fair, the largest fair in New York State. We invited every BFF to demo with us. We had 9 teams attend and were featured on the news 4 times. We've been invited to host a larger demo with more teams and space next year!

8/31 Today's our first day of school! I'm excited to go to the FTC engineering class that 4930 founded. Recognizing many local schools can't support FRC, we started a flagship FTC program to help grow FTC in WNY. With this program, we doubled the number of WNY FTC teams and are planning to host our own regional next season.

9/7 Today we celebrated 1 year in our new shop. When I joined, our lab space was a closet. We renovated the basement of our library to create a Makerspace shared among our FRC, 2 FTC, and 2 FLL teams, as well as Nichols' Engineering and Art Departments.

9/16 Today we demoed to 43 boy and girl scouts. They toured our shop, drove our robots, and completed engineering challenges to earn their STEM badges! Some scouts even came to support us at the Finger Lakes Regional (FLR).

10/1 Today I demoed to 250+ prospective students at the Nichols School Open House. This demo is a great recruitment tool for Nichols and helps sustain our team. Students continue to enroll at Nichols just for our FIRST programs!

10/13 Today we demoed with our Senior Mentor at the Master Teachers Conference of Buffalo. We talked to 110 teachers interested in starting FIRST teams about how our experience has impacted us.

10/14 Today, just last year, we demoed to students at Buffalo Engineering Awareness for Minorities (BEAM) and started FRC6870 BEAM Lightning! In their rookie season we hosted them in our shop for all of Build Season. We put them on a path of sustainability by providing access to a workspace, machine shop, new sponsors, and all of our mentors. We also started FRC5590 Alumibot in our second FRC season. We've started 100% of FRC teams in Buffalo and 60% in WNY. We've also started 67% of FTC teams in the city of Buffalo and 40% in WNY.

10/21 Today I attended one of our 2 annual demos at the Maker Faire where we demoed to 15,000+ visitors.

## Essay - page 2

10/28 Today is Ruckus! We hosted STEM Expo Alley (SEA) where we invite teams to show off non-FIRST STEM projects because we believe FIRST is more than robots . I remember when SEA was a small table with a single robotic arm surrounded by thousands of people at Championships. Now, we've hosted 12 SEAs in 2 years at 6 unique events with 35 STEM groups. It's awesome that I can show off senior thesis projects built by alumni. I can't wait for SEA13 at Montreal 2019!

11/5 Today we welcomed new students to FRC4930 with icebreakers and subteam presentations that taught new skills, teamwork, and FIRST ideals.

11/9 Today I talked to 4930's first Team Captain, Sam Stark. Since graduating he has been named by Huffington Post in their "20 Under 20" for pioneering digital STEM education. I mentioned seeing another alum, Tyler Kuhns, who presented about Imaging Science to all of Nichols! We have a 100% matriculation rate and 92% of our alumni are pursuing STEM. 2 alumni even mentor local FIRST teams!

11/17 Today my team hosted our 2nd FLL qualifier with 15 teams. We embraced FIRST LAUNCH's space theme with planetary judging rooms, a space pop culture scavenger hunt, our Pillars of Creation mini maker faire, and a surprise appearance by Darth Vader during Awards which everyone loved. We partnered with our local science museum and multiple new FIRST sponsors to donate prizes and entertainment. We invited 2 local FRC teams to host a demo and a sensory room.

12/4 Today we kicked off this year's Major Drive. Every year, we host an inter-FIRST charity drive to tackle a problem in Buffalo. In 2017, we supported our growing refugee population with a clothing drive. Last year we aided Buffalo's homeless community by donating 700+ food, toiletry, and first aid items! We've collected donations at the FLR, Buckeye, and Pittsburgh Regionals. This year we're collecting school supplies for Buffalo city students in need!

12/6 Today I demoed at the STEM Hub Student Showcase with 2 local FTC teams. Every year our partner, WNY STEM Hub, invites us to demo with our BFFs. We presented FIRST to 150+ STEM donors, educators, and students. This was featured on the news and reached 37,000+ people.

12/7 Today I organized our Juvenile Diabetes Research Foundation (JDRF) fundraiser. Annually we donate to the JDRF in new and innovative ways, like selling buttons and hosting 6 video game tournaments! We've raised \$1,100+ towards the JDRF and Boston College's artificial pancreas prototype.

12/8 Today is Mock Kickoff! We host it annually to introduce rookie teams and new students to the Build Season experience. We open with a past game animation, analyze rules, and create strategies. Since 2015 we've had hundreds of people attend, including 13 potential teams, empowering the FTC-to-FRC pipeline!

12/14 Today we demoed to 70,000+ at the Walden Galleria, the 18th largest mall in the US. We talked to a school board member about pioneering FIRST in her district!

1/5 Today is Kickoff! Last year we took a giant step for FIRST in Buffalo by hosting an unofficial Kickoff. 4 local teams attended our 2nd Annual "UnKickoff". Before the webcast, we held a haiku competition and our mentor spoke about his experiences as a FIRST alumni. We also offered a surrogate Kit of Parts pickup for all teams in WNY and hosted a rookie build.

1/10 Today I worked on our scouting system for Deep Space. In the past, we created a scouting app that was downloaded 1,500+ times in 5 countries!

1/12 Today we Skyped with 2017 Hall of Fame inductee, FRC2614 MARS. At Buckeye 2017, our "Shock Teams", groups of students that help other teams pass inspection and compete, worked with MARS to help 2 FRC teams. Inspired by our impact, they invited us to join their mission to help every team succeed. Last year at FLR, 1 in 10 teams passed inspection due to our help. Since FLR 2017, we've helped one of our BFFs, FRC4023, participate in an offseason competition to improve student retention. We sponsored their travel and helped them rebuild their robot at a Saturday work session. We support their sustainability by sharing our shop, expertise, helping them procure funding, and train new mentors!

1/14 Today we built field elements with FRC5590. It's amazing to see how far they've come since we started them in 2015. Last year, they expanded into new facilities and we're helping them build a field to share with all our BFFs.

2/11 Today we demoed for residents of a local retirement community that partnered with us to sew 575+ surgical caps for a children's hospital last year. We wore these hats at competition to show our passion for the project.

3/1 Today's the day! Our student ambassadors are introducing FIRST to potential sponsors, our robot is on the field, and I'm representing FRC4930 Electric Mayhem in the Chairman's Interview. This is my fourth presentation, but it's no less nerve-racking! I hope I can express to our judges how inspirational, innovative, and impactful the #ElectricalSpectacle has been. Throughout our history, we've directly impacted 1.5+ million and spread FIRST to 21+ million. I didn't mention many things in this journal, like our bike drive, volunteering at Tifft Nature Preserve, Buffalo First Thanksgiving and

Habitat for Humanity, demos at Darien Lake and Nardin Academy, and so much more! My experience as a part of this family has given me priceless life skills and lifelong friends. This is more than robots; this is our story. This team has given me experiences I'll never forget and has taught me that I can accomplish anything today. I can't wait to see what we'll accomplish tomorrow!