

Student Built, Professionally Inspired,  
Community Driven

Sponsorship 2022-23

# 4381



## Twisted Devils

Welcome to Team 4381

Hello! We are FRC Team #4381, a competitive robotics team from the Gull Lake Area in Kalamazoo, Michigan. We compete in local, statewide, and world tournaments, competing alongside hundreds of teams from across the globe to inspire and increase education and awareness of STEAM (Science, Technology, Engineering, Arts, Mathematics) careers. We invite you to look through our packet and learn more about what we do and how we try to inspire our community and live out our motto, “Student Built, Professionally Inspired, Community Driven.”



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## Story Of FIRST

*FIRST* (For Inspiration and Recognition of Science and Technology) is a non-profit organization founded by Dean Kamen in 1989 to promote science and technology to high school students. The robotics competition centers around a game that changes each year. Teams have six weeks to design, build, and program a robot to compete in this game, whilst staying within the given rules and guidelines for that season.

Currently, *FIRST* consist of over 3,800 teams from across the world: The USA, Canada, UK, Taiwan, Japan, Brazil, Israel, and more. Over 60 regional competitions lead up to the world-wide competition, now held in Houston. Not only does *FIRST* provide an excellent real world experience for students, it also presents many opportunities for different scholarships. Each year more than \$80 million dollars in scholarship value are given to *FIRST* students from a broad range of colleges and universities .

*FIRST* provides an education and view for a career path for young people who might not have otherwise discovered an interest in STEAM fields. The organization works closely with schools and community based groups at every level to transform both the perception and reality of education in science and technology. *FIRST* provides a “hands-on” learning experience, emphasizing teamwork, coordination, integration and professionalism, which leads to students being ready to function in today’s workplace.

## FIRST Statistics

-*FIRST* participants are 2 times as likely to major in science or engineering as non participants.

-51% of women in *FIRST* programs major in engineering or computer science

-88% of FRC Students are more interested in doing well in school than their non-*FIRST* peers.

-91% of FRC participants plan to go to college.

-90% of FRC Participants plan to take an advanced STEAM class.

-Over 81% of *FIRST* alumni are in a STEAM field as a student or professional.

-More than 90% of students say that they learned better communication and teamwork skills through their participation in *FIRST*.

-73% of students felt more comfortable presenting their ideas in front of new people.

# Gull Lake Area Robotics (GLAR)



Team 4381 Twisted Devils are supported by Gull Lake Area Robotics (GLAR), a state and federally registered non-profit organization. The Gull Lake area includes Richland, Hickory Corners, Ross Township, Bedford, Augusta, Galesburg, Delton, and Comstock. GLAR's sole purpose is to provide financial, educational, and logistic support to the student members of Team 4381 and our Middle School and Elementary Teams. GLAR operates via a set of by-laws and a student handbook outlining the responsibilities and expectations for student members, mentors, and associates. Although based

within the Gull Lake Community School District, Team 4381 receives limited financial support from the district. The executive board and mentors are not compensated for their work with students, and membership is voluntary. Our structure is a federally-recognized non-profit corporation, allowing us to raise the funds needed to provide a quality program for our students more effectively. Our mentors come from diverse backgrounds, including science, engineering, trades, marketing, and finance, providing a rich source of experience for our students.

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*"This past year we expanded our student base, more than tripling from our rookie year in 2012"*

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## About Us

We are Team 4381, the Twisted Devils, from Gull Lake High School in Richland, Michigan. This is our 12th year as an FRC Robotics team and we are looking forward to hosting our 9th District Competition, held at Gull Lake High School. Our team is open to membership to any student in Gull Lake High School, our Virtual High School, the GL Homeschool Partnership, or any neighboring schools that do not have their own team.

- ◆ 2012—Our first event, a great learning experience, we placed 3rd overall
- ◆ 2013—Competed in the Michigan state finals and finished in the Top 10 in each district competition
- ◆ 2014—Held a huge increase in team numbers, with over 3 times as many members vs. our rookie year.
- ◆ 2015—Our team advanced all the way to the World Finals competition in St. Louis, Missouri. We placed 2nd in the Kentwood District competition, and earned a 1st place victory at the Gull Lake District.
- ◆ 2016— Highlighted by many awards for our Safety program and Gracious Professionalism. We advanced to the Michigan State Finals, narrowly missing an invitation to Worlds!
- ◆ 2017— Participated in three district competitions and advanced to the Michigan State Finals. We were awarded for our Safety program, as well as Entrepreneurship, Engineering Inspiration and Imagery.
- ◆ 2018—Won our very first Chairman's Award! We competed at 3 district events and advanced to the Michigan State Championships. This is the first year that our team constructed a development and a competition robot. Over the summer, we built a robotics facility for all of the GLAR teams to practice in.
- ◆ 2019— We won several awards Entrepreneurship, Innovation in Control, Gracious Professionalism, Industrial Safety. At the State Championships were a semi finalists and won the Industrial Safety Award. We advanced all the way to the World Championships in Detroit, MI with one of our FTC Teams 8027
- ◆ 2020— We won District Chairman's Award.
- ◆ 2021- We competed in the at home challenge and were finalist in the Phosphorus group.
- ◆ 2022-We won both the Gull Lake District Event and Kentwood District Event! At the State Championships we were picked 2nd for an alliance. We qualified for the World Championships in Houston, TX and placed 25/76 in our division.

## Alumni Statistics

Our program is one that truly supports and inspires the success of our students. All 71 of our students who have graduated, 64 of them going to a university, and 47 of them are in STEAM fields. Our Alumni attend some of the finest colleges and universities in the region such as University of Michigan, Michigan Tech, WVU, WMU, Grand Valley University, and Kalamazoo College



## What do we do- In short

We, the Gull Lake Twisted Devils, Team 4381, are a Gull Lake Area Robotics (GLAR) Team and a participant in FIRST Robotics. We Promote the values of science, technology, engineering, arts, and mathematics in our community. We promote and provide real-life education in other areas, including:

- ◆ Marketing
- ◆ Web design
- ◆ Journalism
- ◆ Public speaking
- ◆ Data Analysis
- ◆ Problem Solving Skills
- ◆ Control Electronics
- ◆ Programming
- ◆ Electrical Power Systems
- ◆ Mechanical Design
- ◆ Mechanical Construction

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## *“Student Built, Professionally Inspired, Community Driven”*

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### How We Work, How We Live

The phrase “Student Built, Professionally Inspired, Community Driven” is more than just a slogan or a tagline; it is our way of working and living. “Student Built” pertains not only to our robots, which are fabricated, assembled, wired, programmed, etc., entirely by our students, but also to our team. Everything we do is driven by our students, whether in competition or outside activities. “Professionally Inspired”-our team is blessed with a large core of mentors from a broad range of trades, professions, and backgrounds who freely give of their time, thousands of hours per year. Our students learn, experience, and gain valuable wisdom from those who have gone on before them. In the words of one of our alumni, *“Through participating on the robotics team, I know what is expected of a professional, and I think I’m more mature than most people my age because of it.”* “Community Driven”- Gull Lake is a small community, and we strive to impact our community through education, example, and service. Our team goes beyond “building robots” and seeks to build community by promoting STEAM Education at all levels in our schools and volunteering in such areas as junior mentoring younger robotics teams, County Fairs, Museum Presentations, and participating in local parades.

## Gull Lake Area Robotics Budget 2022-23

Competition Fees	FRC Budget	Program Budget
-District Events	\$13,000	\$15,325
-Non Competitive Event	1,000	1,000
-State Championship	4,000	5,000
-World Championship	5,000	5,000
-Registration Fees		4,891
<b>Raw Materials and Tools</b>		
-Robot Parts and Materials	35,000	44,250
-Materials for Practice Field	1,000	2,760
-Tools for Construction	2,500	3,000
-Safety Supplies	2,900	3,200
<b>Marketing &amp; Shipping</b>		
-Printing & Copying	1,250	1,850
-Team Uniforms	4,500	10,300
-Supplies	3,000	6,000
-Website	500	500
<b>Travel Expenses</b>		
-Meals for Students	5,000	8,950
<b>Miscellaneous Expenses</b>		
-Fundraising	250	250
-Community Outreach	500	500
-Merchandise	1,200	1,900
-Operating	1,420	1,420
-Credit Card	300	575
-Team Building	2,500	5,000
-Scholarships	1,000	1,000
<b>Total</b>	<b>\$85,820</b>	<b>\$122,671</b>

## Why Team 4381?

Of all the different programs and charities asking for donations, why should you choose team 4381? We believe the answers can be found in the mission of FIRST and our team. Our main goal is to increase and encourage the STEAM fields. Sadly, US students rank 15th globally in math and science scores. Support of FRC Team 4381 will improve the future of our students and our community. Two-eight years down the road, our students will be the employees of our community's workplaces and perhaps start their own companies. Robotics can be considered the "Varsity Sport of the Mind." It educates our community about Science, Technology, Engineering, Arts, and Mathematics. Not only does robotics educate students about STEAM, but it also gives them opportunities our schools cannot provide. Approximately 80 million dollars in scholarships are available to FIRST participants, making it easier for those from less fortunate situations to be successful in their future.

While there are several FRC teams in the area, The Twisted Devils are one of the newest and fastest-growing. Within our twelve years as a team, we have been to the State Championships seven times and the World Championships

three times. With sub-teams such as CAD, strategy, programming, marketing, electrical, and mechanical, our talented mentors donate lots of their time--over 30,000 hours— to help our team succeed.

We hope you consider Team 4381. Thank you



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*"[Robotics] has given me tons of soft skills like : Working with hand tools, machines, and how to properly use tools and power tools." -A student, Alumni of Team 4381*

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## Levels of Sponsorship

**Contributor - Up to \$249:** Name included on website

**Bronze - \$250-\$499:** All above plus company name on pit structure

**Silver - \$500-\$2499:** All above plus logo on shirt

**Gold - \$2500-\$4999:** All above plus small logo on robot and sponsor spotlight

**Platinum - \$5000-\$9999:** All above plus large logo on robot and company name announced at Team Competitions

**Diamond - \$10,000+:** All above plus company logo on **ALL** GLAR robotics teams shirts.



*We participate in various parades, here we are in the Gull Lake Homecoming parade with our Middle School robotics teams.*

## Sponsorship

Please consider helping us by choosing your donation level below: (please specify)

To have your company included on team

- Contributor - Up to \$249:
- Bronze - \$250-\$499:
- Silver - \$500-\$2499:
- Gold - \$2500-\$4999:
- Platinum - \$5000-\$9999:
- Diamond - \$10,000+:

shirts your donation must be received by  
Feb 3rd, 2023

Company:

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Contact Name:

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Address:

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Telephone: (    ) \_\_\_\_\_ - \_\_\_\_\_

E-Mail:

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**An acknowledgement letter for your tax deductible donation will be mailed.**

## FIRST is committed to Diversity and Inclusion

[Have a skill ?](#)

[Enjoy working with youth ?](#)

[Have some time ?](#)

[Want to make a difference?](#)

Volunteers make up 99% of the FIRST® workforce. Whether you have a weekend to help, want to mentor a team, have technical or non-technical expertise, there is a volunteer role suited to your unique interest. Find information about FIRST programs, volunteer resources, opportunities, and more!

<http://www.firstinspires.org/ways-to-help/volunteer/event-volunteers>

Building STEAM literacy and confidence is required to succeed in nearly every endeavor in today's technology-rich society. STEAM competence and confidence create pathways to well-paying jobs and entrepreneurial opportunities in the fastest-growing fields, creating the potential for young people to achieve purposeful and prosperous lives.

Collectively, we must enable our young people to grow up to solve the world's most pressing problems, be strong citizens, and build a brighter future. *FIRST* is committed to bringing its programs to students who would benefit most and is actively engaged in developing strategies that will ensure greater access to its programs and reduce inequalities. *FIRST* is committed to fostering, cultivating, and preserving a culture of diversity and inclusion. We embrace and encourage differences in race, ethnicity, national origin, sex, gender, gender identity, gender expression, disability, age, religion, income, or other characteristics that make our adult force and students unique.

Exploring, developing, and implementing strategies to become more inclusive and ensure access to our programs to all students (as well as access to key supports) is critical for *FIRST* to reach its goal and mission. ALL young people should have the opportunity to become science and technology leaders, and *FIRST* will remove barriers to program participation for underserved, underrepresented students. Pursuant to that end, *FIRST* Diversity & Inclusion is a concerted, organized effort to develop strategies to make its programs more accessible and inclusive.

## Gull Lake Area Robotics

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