

2023 Robotics Season Overview

Team 4982 | Olympus Robotics

This Season was Dedicated to Coach Stevenson

On January 12, 2023, Mr. Bob Stevenson, the teacher and coach that founded our team passed away after battling Stage IV Lung Cancer. Mr. Stevenson encouraged us to continue through struggles and learn from them. We kept him with us throughout the season by naming our robot after him to remind us to follow his frequent saying:

“If you don’t have enough time to do it right the first time, you won’t have time to make it right the second time.”



Start of the 2023 Season

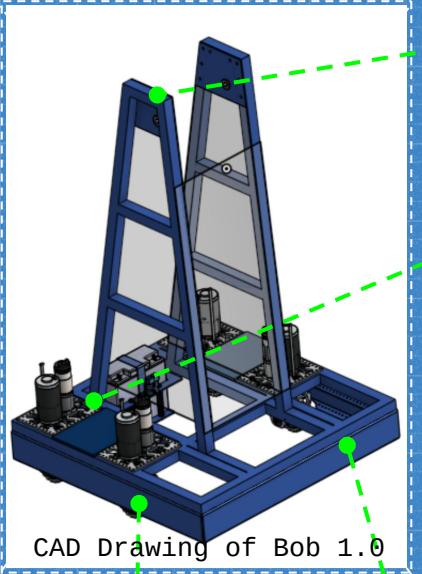
FIRST released the game challenge for this year in early January.

This year's goal was to create a robot that could score cubes and cones on pegs and stairs in addition to balancing on a platform.



Design 1: “Bob 1.0”

In our first design, “Bob” had an A-frame that was almost 4 ft tall. This made our robot extremely top heavy and more liable to fall over. The “claw” on this first design struggled to retrieve the cones. A week before our first competition, testing revealed our top-heavy issue. We made the daring decision to reduce the size of the A-frame to $\frac{1}{3}$ of its original size to combat this issue.



28 in x 28 in
chassis

Wheels situated 10 in from
the front to let the robot
hang over the edge of the
balance pad

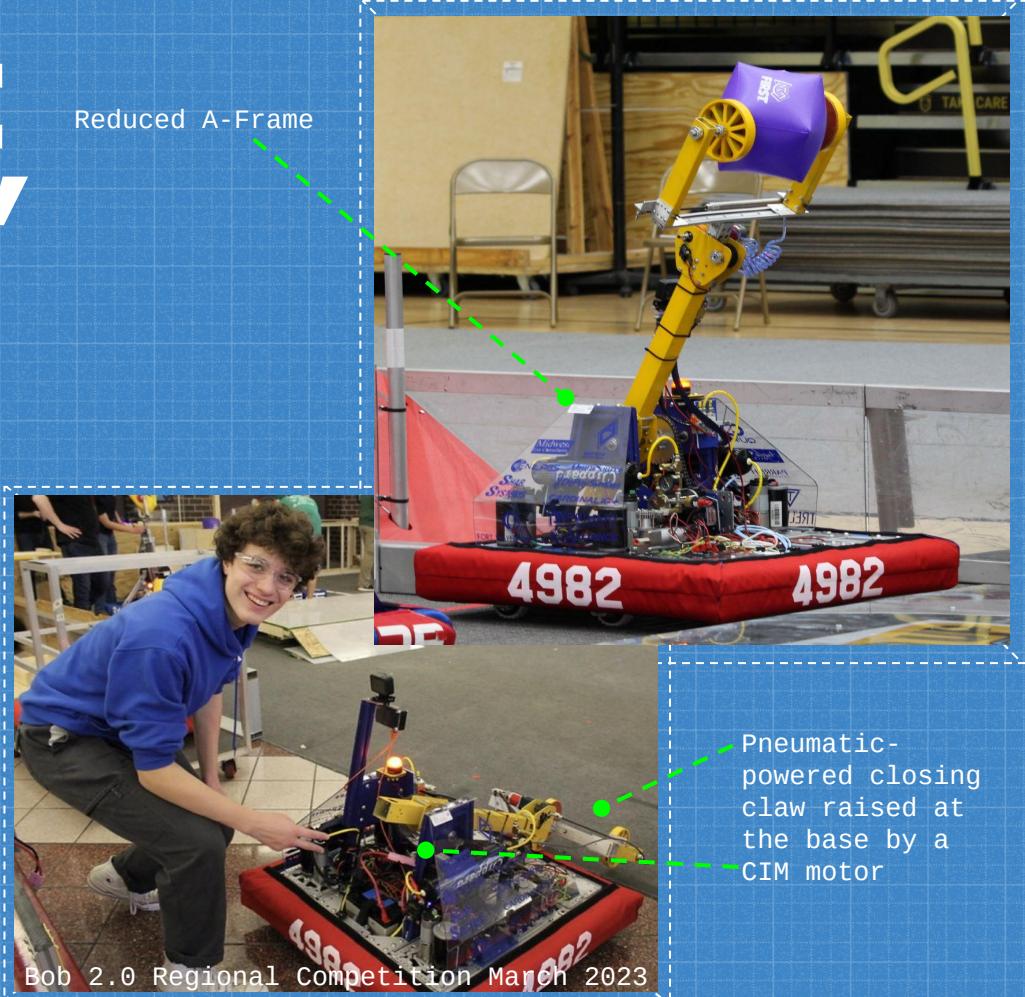
Where the original arm
and claw were mounted

Swerve drive modules



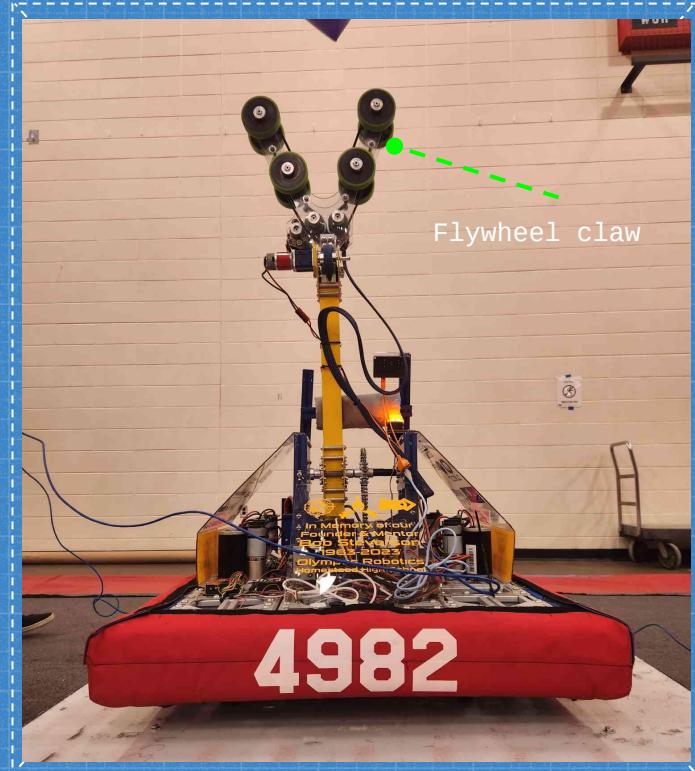
Design 2: “Bob 2.0”

In this design, we reduced the size of the original A-frame to mount the arm closer to the bottom of the robot. We kept the original arm and claw for our first competition, but discovered some reliability issues when picking up cones and releasing cubes. This claw was powered by pneumatics to close around the scoring elements. The arm was raised by a CIM motor. This iteration was extremely liable to break during matches.



Final Design: “Bob 3.0”

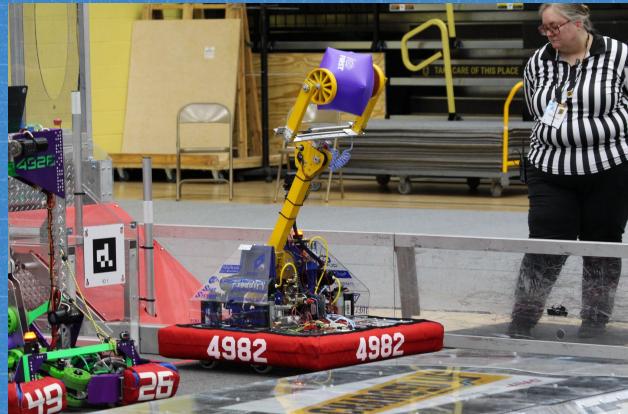
After our first competition, we brainstormed and prototyped, finally settling on the idea of a flywheel claw. This claw was able to grip both cubes and cones and even launch them into their respective areas. We also switched to Neo motors to raise the arm as they are more efficient and have built-in encoders. In our second competition, Bob performed with significantly higher, more consistent scores due to this change. We also introduced some programming elements to ensure we were not jostled around on the balance pad.



Overall Season Performance:

In our first competition, combined technical and timing issues contributed to our poor performance. We did not advance to the playoffs, finishing the event 28/33. Our robot design won the Creativity Award which celebrates innovation in the combined robot design and strategy.

In our second competition, we showed great improvement resulting from driving practice and improved robot elements. We advanced to the playoffs and narrowly missed the semifinals, finishing the event ranked 24/32. Our combined score from the two events was not high enough for us to advance to the State Championship Competition.



Bob in Action



We are team 4982 on the Red (right) Alliance

Going Forward

For the team:

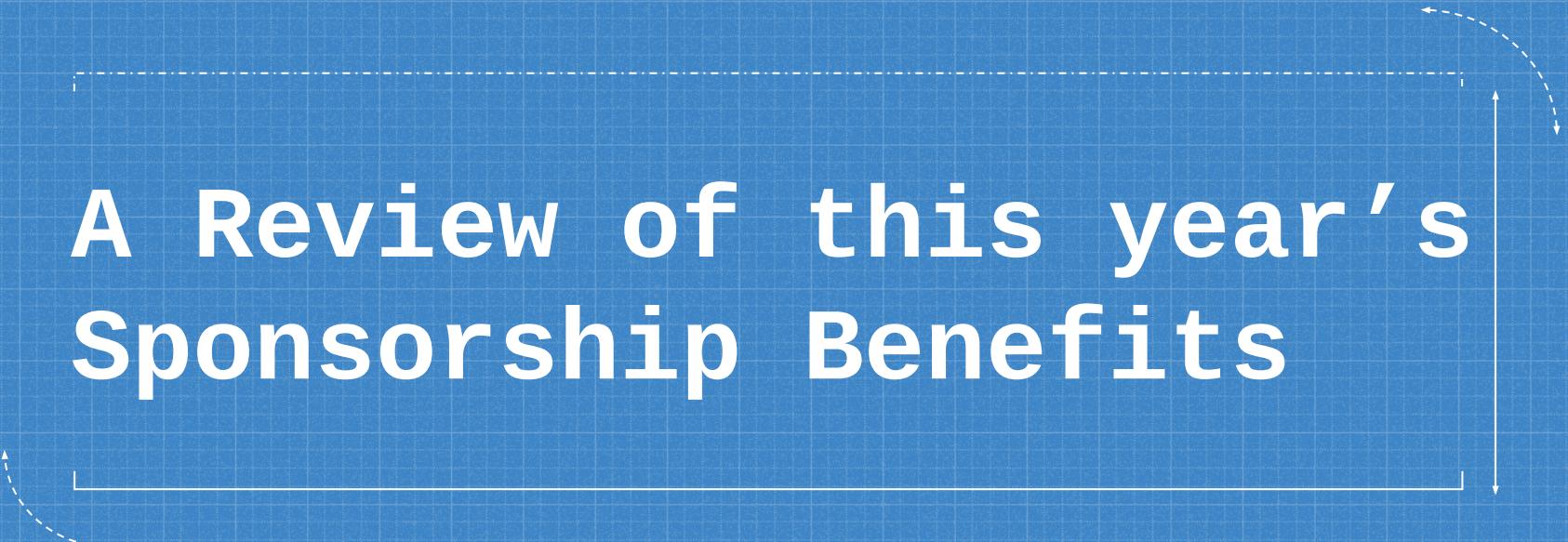
Over the summer, the team will arrange sponsor relations with new companies, plan for the coming season, and volunteer in our community. We will resume projects, skill-building “classes,” and other operations in the fall at the start of the new school year.

For sponsorship:

We would like to say **THANK YOU SO MUCH** to all of our 2023 sponsors. We could not have done any of this without you.

We will be reaching out to this year's sponsors again in the Fall of 2023 for a continued sponsorship relationship. Details about our new sponsorship system will be provided then.

A Review of this year's Sponsorship Benefits





Sponsor Banner in Team Pit | Team Shirt with Sponsor Logos



Sponsor Panels on Team Robot

Instagram:
4982_olympus_robots



Sponsors on Team Social Media |

www.team4982.com

WE ARE OLYMPUS ROBOTICS

Our Team

Olympus Robotics is a dedicated group of students and mentors driven by a passion for engineering and technology. Based at Homestead High School in Fort Wayne, Indiana, we are a FRC team that is committed to using our skills and knowledge to make a positive impact in our

team4982.com

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PRIMARY ENGINEERING INC
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QUICKUT

Sponsors on Team Website

