

# FTC 16302

**VAL EAGLE ROBOTICS**  
Engineering Portfolio  
Virtual Academy of Lafourche



**VAL Eagle Robotics**  
506 St. Mary Street  
Thibodaux, LA 70301  
[eaglerobotics@valcharter.org](mailto:eaglerobotics@valcharter.org)



# All About Us

VAL Eagle Robotics is a Robotics Club at Virtual Academy of Lafourche (VAL), which is a K-12 Charter School. We currently have six sites throughout Lafourche Parish with approximately 500 students. We have now expanded the Robotics Club to all sites and are available to 4th-12th grades. At the VAL St. Mary High School Site, we have a designated area for robotics (named The Eagle's Nest), which includes an area strictly for the Tech team and another area strictly for the Challenge Team, tables for a media center, a programming and CAD center, a 3D printing station, and several workbenches. The media center allows us to grow the program to all VAL sites throughout Lafourche Parish, in addition to allowing us to be able to meet virtually with other teams anywhere.



## Team Plan and Goals

In the first couple of meetings this year, we introduced ourselves and discussed our goals for the year, how the season should progress, and what is expected of everyone. We then began brainstorming ideas for the robot and improvements for it. Last year's robot was a good example to teach the new students past mistakes and help them get a vision. Our primary focus, in the beginning, was preparing for the first outreach events, setting goals, establishing teams, and coming up with robot ideas to overcome challenges. Listed below are our season's goals and how we accomplished them so far.



Serve as Ambassadors of FIRST®	Grow our Mentor team and FIRST®	Grow our Sponsors	Growing our Team	Share our Knowledge
<p>Co-hosted a First Lego League Qualifying event in the Bayou Region with Bayou Stem.</p> <p>Participated in outreach events to promote VAL, VAL Eagle Robotics, and the FIRST organization.</p> <p>Distributed information at each event and demonstrated our robot to others.</p>	<p>Organized the JD Inspire event at John Deere Thibodaux to highlight our program and what we do to potential mentors.</p> <p>Inspired two JD employees to start 3 new FIRST teams throughout Louisiana.</p> <p>Impressed JD executives so much that they offered to fundraise for us if we make it to Worlds.</p>	<p>Increased efforts in distributing sponsorship packets to local businesses, family, and friends.</p> <p>Fundraising mail campaign. Went from 2 sponsors last year to 11 this year.</p> <p>Applied for and received grant to receive proceeds from the Creole Classic Fishing Rodeo and Festival.</p>	<p>Opened up the team to all 6 VAL sites, not just the Thibodaux location.</p> <p>Have 5 more members over last year, with 5 members coming from other VAL sites.</p> <p>Built a media center with new computers so we could have Zoom meetings from anywhere.</p>	<p>Offered contact information at all events to other FLL and FTC teams and helped several teams with issues.</p> <p>Mentored our First Lego League Challenge Team.</p> <p>Partnering with Lafourche Sheriff's Office to establish a FLL program for children with incarcerated parents.</p>



# Meet The Eagles

Not just a team, but a **FAMILY!** Our goal this year was to expand the team to the other VAL sites and grow our membership. This year, we have 5 more members over last year, with 5 of them coming from other VAL sites. We asked the team what was their **FAVORITE** thing about Robotics, and here's what they said:



**Darrell**  
Team  
Co-Captain  
Coding

The Robot



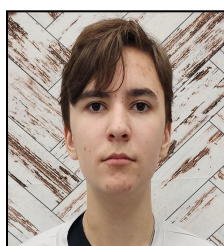
**Ethan**  
Engineer.  
Notebook

Friends



**Gabriella**  
Engineer.  
Notebook

New  
Friends



**Gauge M.**  
Coding

Making  
friends



**Kristian**  
Build &  
Design

Learning  
Powerpoint



**Luke**  
Mascot



**Ruby**  
Engineer.  
Notebook

Watching  
us grow,  
friends



**Dylan**  
Build & Design  
Drive Team

Learning  
experience



**Wyatt**  
Build &  
Design

Driving  
robot



**Aubrey**  
Coding

Making friends,  
building family



**Gage B**  
Build & Design  
Drive Team

Working towards  
a goal



**Sam**  
Team Captain  
Coding

Seeing hard  
work pay off



**Pierce**  
Build &  
Design  
Drive Team

Learning



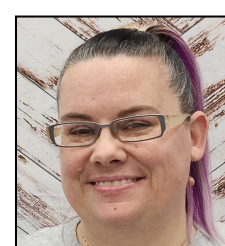
**Vincent**  
Engineer.  
Notebook



**Mr  
Kenneth**  
Parent  
Mentor



**Mr  
Donald**  
Parent  
Mentor



**Ms  
Dixon**  
Parent/  
Coach



**Ms  
Laura**  
Parent/  
Mentor

**Mentors Not Pictured:**  
Mr Wilson, Ms Crystal,  
Ms Ashley, Ms Melanie,  
Mr Chad, Mr Rodrigo,  
and Mr Rahul

# JD Inspire

Our program's success relies on our ability to sustain mentorships through the years, and our goal this year is to grow our mentor team each year and help other FIRST® organizations do the same. Our mentor team is made up of an outstanding group of individuals including parents, Board members, and John Deere Employees that are invaluable to our learning and growth. Our team is currently the only Tech team that participates in the JD Inspire Program, where John Deere partners with established youth organizations in their communities to support and mentor the next generation of innovators, problem solvers, and leaders. The John Deere group of mentors have provided essential training and support for our team as well as financial support.



## 2/23/2023- John Deere Factory Tour- STEM Community Outreach Event and VAL/VAL Robotics/FIRST® Ambassador Event

John Deere's involvement in our team has enabled us to reach our goals of success. They are one of our main sponsors as well as provide engineer mentors to guide us through the season as part of the JD Inspire Program. An event our team looked forward to the most this year was organizing our **first annual JD Inspire**

**FIRST® Demonstration and Factory Tour at the John Deere Thibodaux Facility.** The purpose of this event was to teach us how what we are doing in Tech ties into real-world engineering and to allow us to show what FIRST® is about while demonstrating FIRST® to John Deere and JD Inspire. While at the factory, we toured plant 3, which had assembly, weld, paint and part fabrication with CNC laser cutters, press breaks, and saws. After the tour, we were given four presentations on how our TECH coding, engineering notebook and portfolio ties to what they do in the factory. After lunch, we heard from several members of the factory about their careers and how they got where they are today. It was interesting to hear that not all of the positions required a 4-year degree in engineering. Some of the positions were held by people with technical college degrees. Once the speeches were finished, it was our time to shine. We presented our competition presentation and showed what our robot was designed to do by presenting it on a half mat that we brought with us. Many employees knew of our team before, but this provided the opportunity to see us in action.

## Growing FIRST® Mentorships

Because of our presentation, we **INSPIRED** two new potential mentors from John Deere that wish to mentor other schools and establish **THREE** new FIRST® programs (Thibodaux High, Prairieville Middle, and Dutchtown High), which achieved our **ULTIMATE** goal of promoting FIRST® to other STEM organizations and ensuring its sustainability in our community. We plan to make this an annual event for our team as well as hope to be able to invite other FIRST® teams in the upcoming years to the same type of event.



# Sponsors/Fundraising

One goal for this season was sustainability of our program. One way we wanted to achieve this was to grow our number of sponsors over last year, which was only 2 sponsors. So far this year, our team has a total of 11 sponsors who have generously donated a total of \$30,770!!! We have 2 returning sponsors this year and 9 new sponsors. We mainly obtain sponsors by approaching local business, friends, and family. We have been doing more outreach events this year, so our name is starting to get out more to companies willing to sponsor us. We are so thankful for each one of the donations, big and small. The team has put the money to a good purpose by purchasing 3 engineering computers for TECH as well as 2 iPads for the Challenge Team. We were also able to purchase a 3D printer, inkjet printer, rolling cabinets, a new Strafer chassis for the Tech team, and various equipment, tools, and supplies. In addition, we were able to purchase plaques to recognize these sponsors and show our gratitude for their support.

## VAL Eagle Robotics 2022-23 Season Fundraising To Date

Date Received	Company/Sponsor	Amount	In 2023, our team plans to continue to promote VAL Eagle Robotics to various individuals and businesses in the hope to partner with them to continue our program for years to come. Sustainability is important to our team, and without the support of our generous sponsors, this would not be possible.
3/24/2022	Harvest Midstream (returning)	\$14,000	
5/16/2022	Personal Donation (Teacher)	\$50	
6/2/2022	Personal Donation (Parent)	\$20	
7/27/2022	John Deere Benevity (returning)	\$3,400	
8/15/2022	Lafourche Animal Hospital	\$250	
8/15/2022	Ayo Orgeron Ayo	\$250	
8/23/2022	Lapco	\$2,500	
10/19/2022	State Farm James Matassa	\$50	
11/14/2022	Correctional Food Services	\$300	
11/28/2022	Donation from Creole Classic Festival	\$9,450	
12/20/2022	Matherne Chiropractic	\$500	
<b>Donations</b>	<b>To Date This Season</b>	<b>\$30,770</b>	

## 2022-2023 Fundraising Mail Campaign

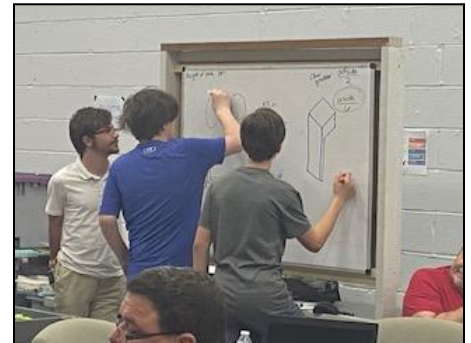
As a way to reach potential sponsors in our community, one of our parents organized a mailout campaign to reach businesses in our local communities. This was a great way for our team to include a parent volunteer in a way that he was able to assist. Mr. Knight mailed out our sponsorship packets and contact information to approximately 100 local businesses that we would have had trouble reaching through our outreach campaigns. This planned campaign fulfilled a need, and we received additional sponsorship dollars as well as local recognition for our school and our robotics program.

# Team Structure

Design/Build: Team 1 and Team 2	Coding/Programming Team	Engineering Notebook Team, Events, Fundraising
Dylan, Gage B, Pierce, Kristian, Wyatt	Darrell, Sam, Gauge M, Aubrey	Gabrielle, Ruby, Ethan, Vincent, Luke

## Our Design Strategy

- Before the challenge is revealed we delegate people and find out what team everyone will be on.
- After the challenge is revealed, half the team works on design based on the parts we have and can get. The other half starts either disassembling the old robot or building a new base to start with.
- Once the frame is built and we have agreed upon our design, we start either building the pieces we need or purchasing them off of Gobilda.
- After our basic design is built, we start finding what can be improved about our robot, and start making autonomous programs.
- Encounter problems, troubleshoot, find solutions, repeat.
- While making design improvements we also make autonomous improvements and keep working until we can't make it any better or we run out of time.



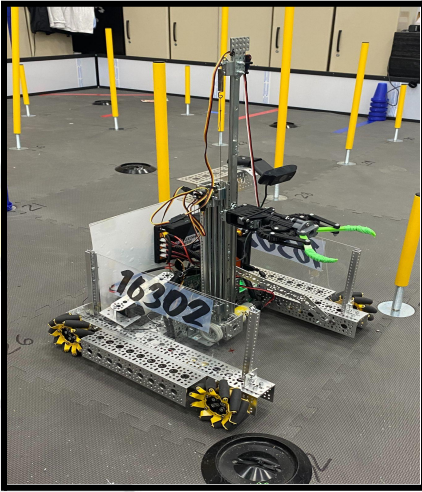
### CREO/CAD PROGRAM

PTC, an American computer software and services company, has graciously provided our team 20 CREO licenses through FIRST® TECH. Altogether, this would have cost about \$20,000. Our team is putting each license to good use, and mentors from John Deere are teaching students how to use and operate the program. Different students have used this program to design the robot's claw and model the entire robot. The program is a bit confusing, but with the help of mentors, students are catching on faster than expected. We have included images on the following pages from the CREO model of our current claw, beacon, and robot.



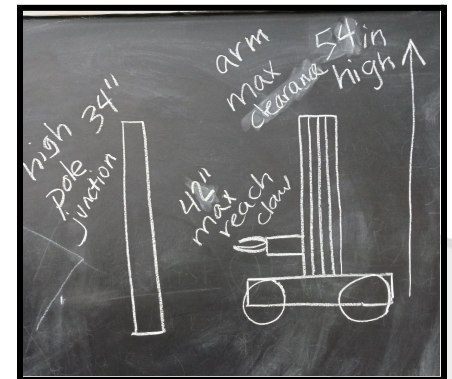
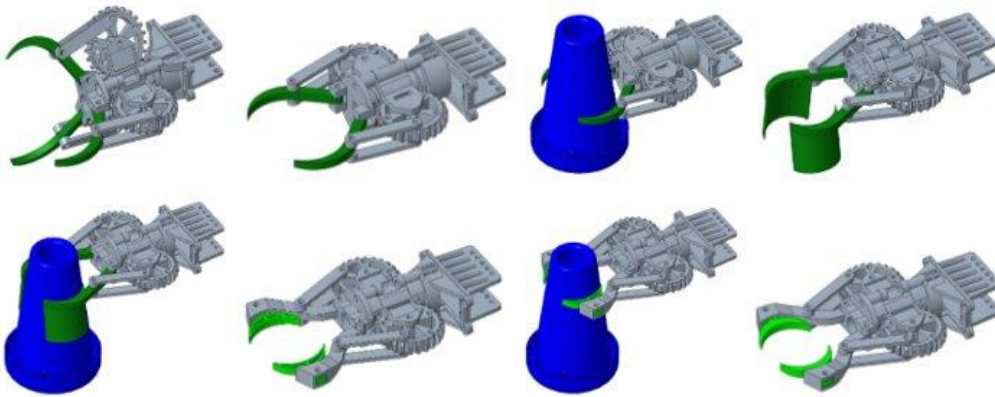
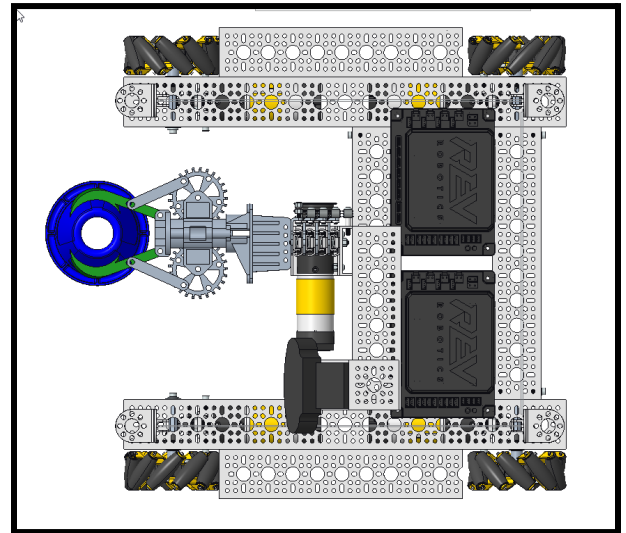


# Our Robot "Ant-ony"



Our Robot is named Ant-ony because his claws look like the mandible of an ant. We have a mecanum 4-wheel drive train that allows us to easily maneuver in between the junctions. We have plexiglass walls that provide protection for our expansion hub, control hub, and gives us a place to display our awesome sponsors. Our robot also has an arm and 3D printed claw that are the main means of scoring. We started from the ground up for everything other than the claw, which was a reworked design from our previous season.

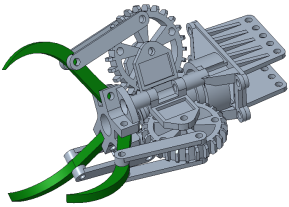
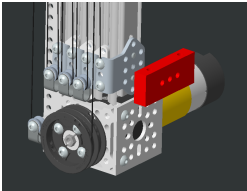
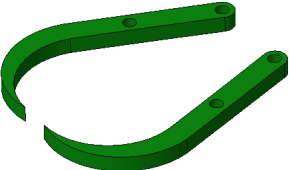
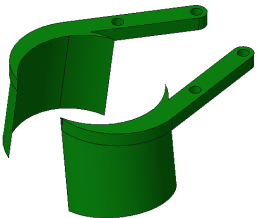

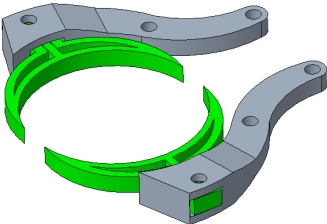
Our Claw and Arm play a vital role in the success of our robot. The arm is a 4-stage viper slide arm, powered by a DC motor which lifts the cones to the necessary height to be placed on the high junction. The claw (which is entirely 3D printed and powered by a Servo) uses a worm gear that closes two independent fingers to grab the cones from the floor and secure it in place. We chose a super speed Servo for the claw because a regular CRS wasn't fast enough when grabbing cones. Ironically, we chose a higher torque motor for the arm because the arm would go up quickly but would be unstable and inconsistent.



**The above CAD images show the evolution of our claw from the beginning of the season until now.**

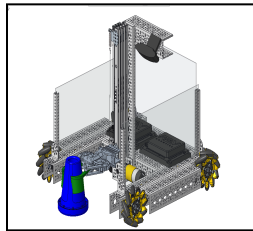
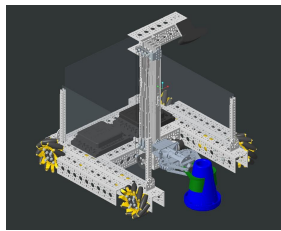
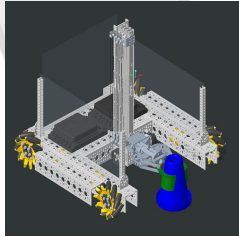
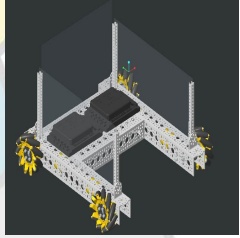
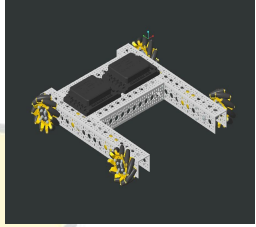
Our claws began the season as last season's claws, which were designed to pick up balls and squares. The approach that we chose was to remove one of the claws and replace it with a new claw made of two pieces of ABS. Also, we felt that as time went on, we needed to be more effective, so we increased the claw's surface area. But, this did not work since the claw was too supple and flexible. The claw that we now have is composed of TPU and ABS. We came to the conclusion that the claw arms needed to be stronger, and we decided to make the claw itself out of several connector-like pieces.

# Evolution of our Claw

	Part	Problem	Solution
	<b>3-Finger Claw Design</b>  Started with claw design last year.	Designed for spheres and cubes, didn't work as well with cones.	Went from a 3-finger design to a 2-finger design and a side approach rather than a top approach.
	<b>Claw Mount</b>  (Piece highlighted in red is the new bracket)	Claw mount from last year did not attach to our new slide arm the same way.	Designed and 3D printed a new claw mount bracket that was turned the other direction to mount the claw to the slider.
	<b>First 2-Finger Claw Design</b> made of Cheetah TPU 3D filament.	Fingers too long, fingers overlapped, and material was slick on cone and not enough friction.  Found we needed more support, warped when pressure of Servo was applied.	Added small rubber bands to the fingers to add grip. This worked for a while.  Designed a new claw with more surface area on fingers.
	<b>Second 2-Finger Design</b> made of Cheetah TPU 3D filament.  More surface area making contact with the cone, hoping to attain more grip.	Extra surface area meant less pressure from the claw. It actually had a negative effect on pressure rather than helping us.	Decided to cut the surface area of the claw fingers in half.
	<b>Third 2-Finger Design</b>  New claw fingers with half of the surface area as before trying to increase pressure applied.	Did increase the pressure, but it had a very minimal effect.  Still not adequate support for the cones.	Redesign the claw using original design of 2-finger smaller claw but added separate support arms made out of ABS for more rigidity but retained the TPU tips.
	<b>Current Claw Design</b>  Designed 3 different TPU tips to fit on the arms with varying amount of airspace inside the tips with purpose to act as a spring.	Currently this design is working great for us.	Tried 3 different versions and the one with the most airspace worked the best. There is also a piece in the middle for more stability and with increased size for more surface area now that the design is done.



# Our Robot “Ant-ony”



This year, our robot has improved in many ways. At the beginning of the year, we used last year's robot until our new Strafer kit came in. The new components were already improving the robot before we made any big design changes. While waiting for the new kit to come in, we made and designed a new and improved claw. Next, we built the new arm as well as got a new camera and programmed it. Then, the entire build team worked on building the new arm. Last year the arm had a set height and could only move out to a certain point. However, this year's arm has a lot more height and is more secure. The claw is also easier to manipulate than last year's claw because it is more consistent with grabbing. After that was when we worked to build the claw on CREO, then 3-D print it out and attached it to the robot. One of the mentors from John Deere volunteered their time to teach the coding team how to program the camera to recognize the colors on the cone and later taught us how to use Road Runner for autonomous play. We also mounted our

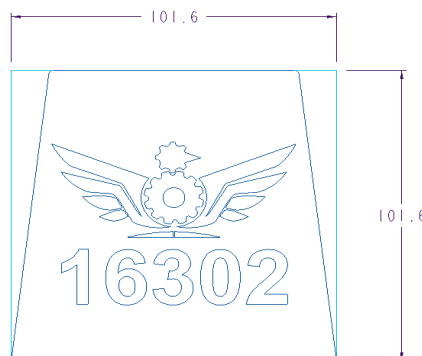
control hub and expansion hub to our walls to declutter our wiring. One of our favorite parts of the robot is our recently added plate on the back of our robot with our sponsors.

All in all, the team has worked many hours to make this year's robot better and more reliable.

Each year we learn more information about it, and how we could improve it.

# Our Custom Beacon

For our team beacon, we decided to go for a neat simplistic design that also nicely represents our team. We had decided to go for a wider design so that the claw can fit around it perfectly. We had also designed a more gritted outer self so that the claw couldn't accidentally drop it. Unfortunately, our first attempt at printing failed because of numerous reasons, the main one being that the printer started printing the overhang of the wings in a curved way which made the printer stop itself. Later, we also found out that the walls we designed were too thick, which made the beacon unreasonably heavy and harder for the robot to grasp. Our team had decided to make the walls thinner and decreased the depth of the words so that the overhang wouldn't curve. After that, we printed out our new design and it worked perfectly!



# Lessons Learned

Part	Problem	Solution
<b>Started the season with a 2-stage Viper slide</b>	The slide was too short to reach the high goals.	Looked into parts to extend but realized with unavailable parts plus expense, it was better to order a new 4-stage Viper slide than trying to convert.
<b>Claw Mounted on Slide</b>	Once the claw was mounted, we saw it was outside of 18 inches.	Had to adjust the frame by moving the center bar of the Strafer chassis further back to allow the claw to stick out the front.
<b>Claw</b>	Claw didn't close fast enough to grasp the cone securely.	Ordered a super-speed Servo that closed the claw fingers a lot faster.
<b>Pulley on the bottom of the slide</b>	We broke this due to hitting one of the ground scoring junctions .	We added a skid plate to the bottom of the chassis for protection.
<b>Slider string</b>	The string kept breaking on us.	Tried different types of strings with varying materials and sizes. Ultimately decided to buy the new belt slider. Alignment was an issue, but we readjusted.
<b>Robot sides</b>	At scrimmage, we noticed the robot could get caught on junctions in between the mecanum drive wheels .	Designed and added inner fenders to prevent the robot catching on anything.
<b>Autonomous mode</b>	Once we competed, we realized we needed to score more points in autonomous to be competitive.	Reached out to Mr. Rodrigo, a JD mentor, who helped to find the RoadRunner software and work with the coding team to upgrade autonomous programs.
<b>Original control hub (phones)</b>	This wasn't the proper control hub for us and we had problems with the phones. One time the phone fell off during a match.	Reached out to another FTC Team (Jesuit) and were able to borrow a control hub from them.

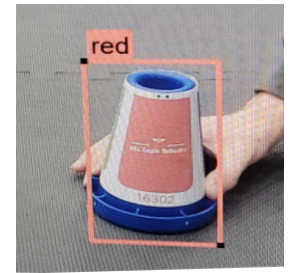
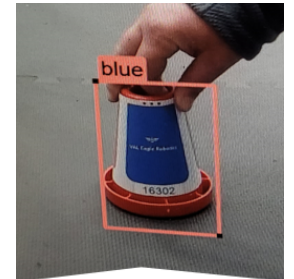
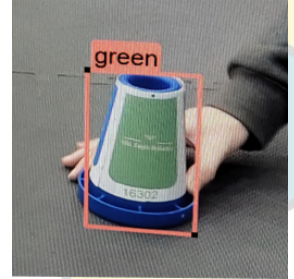
During the season so far, our team has run into many problems, which was expected. For example, one of the first issues our team had was trying to get the drive train working. The programming and build teams were having trouble aligning the motors to the program. Then, we ordered a new camera for the robot. This was the first year we have ever had a camera, and right away we had a hard time getting it to recognize the colors on the cone. It would say green when looking at the blue side for example, but after much trial and error, we figured it out. After this issue we had a new claw 3-D printed out for our new arm. The first time we printed it, the material was too hard and not curved to fit the cone correctly. We tried printing it again, and out of the NinjaFlex filament, it is better but could still use improvements. Another problem we noticed was our claw wasn't nearly fast enough to efficiently grab the cone securely. We fixed this by purchasing a super speed Servo that closed the claws fingers a lot faster. Lastly, our new arm pulley ended up snapping while we were trying to rethread it. We ultimately decided to upgrade the pulley mechanism to avoid this from happening again. Even though we experience these many problems, the team pushes through and works together to get everything worked out.



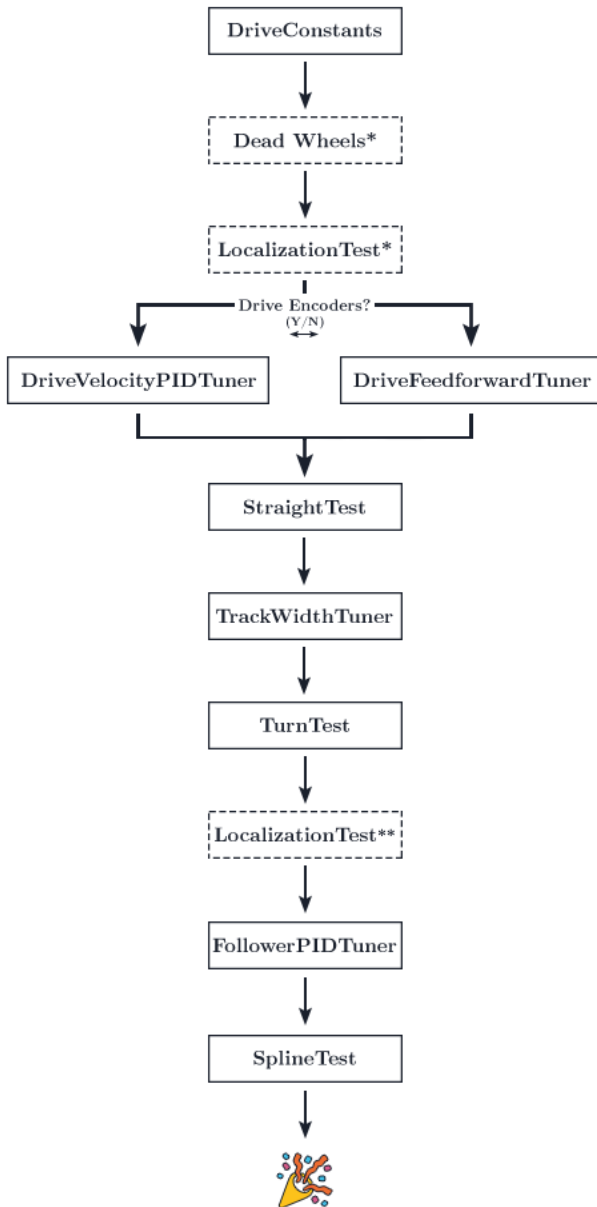
# Coding/Programming

Our robot uses the block program which allows it to move and perform the tasks we need including strafing. It also helps the robot move by itself in the autonomous period. One of our biggest accomplishments this year was using sensors for the first time. We successfully used a camera as a color sensor to park during the autonomous period.

In addition to this, our mentors from John Deere have taught us how to use the Road Runner Program to have better autonomous play.



**Our coding team wrote a program that allows the robot to tell the difference between the colors on the cone during autonomous.**



The coding team was recently trained on a program called Road Runner. Road Runner is a motion planning library, primarily used for autonomous robotic movement. It uses feedback from the wheel encoders and from the inertial measurement unit housed in the control hub. With this closed loop, the robot can estimate it's position in the field and correct to any deviations in heading and translations using tuned PID controllers specific for our robot build.

## <<<<<< Overview of the Calibration Process



**The trajectory is defined by waypoints in the code:**

```

Trajectory myTrajectory = drive.trajectoryBuilder(new Pose2d())
    .strafeRight(10)
    .forward(5)
    .build();
  
```

java

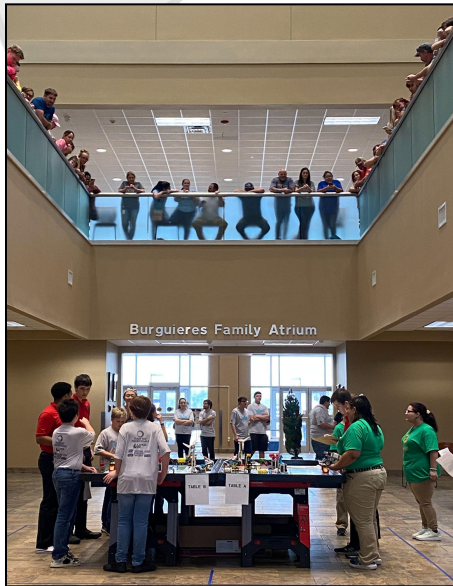
# Sharing Our Knowledge

One of our missions as a Tech Team is to provide the opportunity to assist any other teams whenever possible. At every outreach event, our team hands out brochures and our contact information to other teams to call us for assistance. So far this season, we have been able to assist other FIRST® teams in our local community and helped them to achieve their team goals as well as grow the FIRST® organization in our state.

One team we assisted was the East Thibodaux Junior High FIRST® Challenge Team. This team approached our Coach because they needed a Challenge table for their team to practice. We offered to loan one of our extra Challenge tables to the team



to use as long as they needed, and we also provided them with the plans that we used to build our Challenge tables. They decided to use our plans and build their tables and were very happy with the assistance we provided to them.



Two of our Tech Team members mentored the VAL Eagle Robotics FIRST® Challenge Team. Ethan D. and Darrell A. mentored this younger team by showing up to their practices and helping them with building, designing, programming, and troubleshooting anything they needed. It was a great opportunity for our members to mentor and inspire the next generation of Tech Team Members.

At our New Orleans qualifying event, several team members assisted team # 21590 Cajun Robotics, a rookie team from Metairie. First, Darrell A. assisted the team fix their drivetrain program issues with their Strafer chassis by exporting our drivetrain program off our computer and downloading it onto their computer. Then they realized they were having issues with their motor polarity and Gauge M. assisted them to reverse the motors to fix the problem. We are proud to have the opportunity to support other teams and exhibit Gracious Professionalism within the FIRST® community.

## 2023 Lafourche Parish Correctional Center Outreach Program

One of our most inspirational projects is one that we are currently planning in partnership with the Lafourche Parish Correctional Center. We have plans to collect and donate older Lego Mindstorms Challenge Kits from in partnership with the Louisiana FIRST® Organization. Our team and mentors will provide training for LPCC employees and/or volunteers to set up a program for children with incarcerated parents. These inmates will be able to meet with their children and participate in Lego Challenges in order to provide a positive bonding experience and further learning in a STEM-based activity. We feel this program that we will help start up and sponsor will be a great addition to our community and inspire future STEM generations.





# Outreach

## 7/4/2022 Independence Day Flag Presentation- Community Outreach



One of the very first outreach events we did was to set up flags at the Knights of Columbus council 12060 at St. Charles Borromeo Church on Highway 308 in Thibodaux, LA. We found out about this event through a mentor who is part of the Knights of Columbus. We had put up about 270 flags around the front of the church to celebrate Independence in America.

## 11/10/22 Veterans Flag Day Presentation- Community Outreach

We were invited back to the Knights of Columbus Council 12060 at the St Charles Borromeo Church on Highway 308 in Thibodaux, LA. The team helped set up roughly 270 flags, to honor the Veterans who both past and present served our country. The KIA (killed in action) is a special section of flags that honor Veterans that died that attended this church, as well as flags from each of the military branches.



## 2/25/2023- Lafourche Parish Animal Shelter- Community Outreach Event



Since early this year, we have been in contact with the manager at the Lafourche Parish Animal Shelter, where we will be volunteering each month to help in any way we can. Part of our time this month was spent socializing the dogs to help them get used to people and make it easier for them to be adopted. We walked and played with the animals, as well as helped to clean up after them.

## VAL Inspiration Posters- School Outreach

The team designed and printed inspirational posters to hang up at 6 the VAL sites. Each of the posters has motivating quotes on display. This is helping inform other students about the team, as well as inspires them and makes their day just a little brighter.



## January 2023- VAL St. Mary Site Snack Shack- School Outreach



Our team holds a snack concession stand each day at lunch at the VAL St. Mary High School site. Since VAL doesn't offer lunch options for their students, many of the other sites have created their own snack sales options at least a couple of times a week. Because the high school site is new this year, the team wanted to be able to provide this service to the students at this site. The team used \$500 from their funds to purchase two microwaves, shelves for storage, and various food and drink items. The goal is not to make money, but to provide a service to the school.

# More Outreach

## 9/17/22 Creole Classic- Community Outreach and VAL/VAL Robotics/FIRST® Ambassador Event

Creole Fest was the first community outreach event for our team. They invited us to attend and set up a display area to showcase both VAL Eagle Robotics and the FIRST® program. We had posters set up around our area, as well as a slideshow on the tv behind the team to showcase our robot, team, and school. We also designed a pamphlet highlighting our team and handed out other pamphlets highlighting the FIRST® program and the VAL schools. In return, they donated a portion of their proceeds to our team as well as several other charity organizations through a grant. They were so pleased with our team and our robot demonstration that they invited us back the next year and surprised us with more than triple the donation of what was offered with our initial invitation. In June 2023, the event will be held in Grand Isle, Louisiana, and will be a fishing rodeo and festival combined.



## 12/3/22 Bayou Stem Coastal FLL

### Qualifier - Community Outreach and VAL/VAL Robotics/FIRST® Ambassador Event



Our team ran and co-hosted the Bayou Stem Coastal FLL Qualifier held at Fletcher Community College with FRC Team Phenomenon and Bayou Stem. This was a Challenge competition, but we organized and volunteered with setting up, tearing

down, and escorting teams to judging and matches. Our team ran a concession stand at the event. We served a burger, chips, drink, and dessert combo as well as several other types of snacks and drinks as well. This was not held as a fundraiser, and we sold it at cost as a service to the teams attending due to the lack of nearby food facilities.



## 2/4/2023 - Bayou King Cake Festival- Community Outreach and VAL/VAL Robotics/FIRST® Ambassador Event

In February, our team volunteered for the Lafourche Education Foundation: King Cake Festival. The Bayou King Cake Festival was held in Downtown Thibodaux and people got in the spirit of Mardi Gras by sampling a variety of locally baked king cakes and voting on the ones they believed were the best on the bayou. As you can see, the team has many future goals and events we want to help the community with and participate in. VAL Eagle Robotics helped at several booths and assisted in serving tons of customers samples of two lovely king cake brands. We ended up selling every last box of king cake before the event even ended!





# Future Outreach Goals

Our team remains connected with many nonprofit groups throughout the community, mostly through the aid of our Board and our mentor team. We always try to make ourselves available when there is a need in our community to aid in any way we can. We look forward to partnering with these organizations for many events to come, as it allows us to educate the community about our school, our robotics program, and FIRST®. Listed below are a few events we have already planned.

## 3/18/2023- 12th Annual Autism Awareness 5K/Family Fun Day- Community Outreach and VAL/VAL Robotics/FIRST® Ambassador Event

On March 18, 2023, VAL Eagle Robotics is scheduled to volunteer at the annual 2022 Autism Awareness 5K and Family Run located at the Morgan Municipal Auditorium. At the event, VAL will be working a booth where some of us will be handing out FIRST® brochures, information about

our team, and having our robot for display and volunteering. This event is held close to hearts as we ourselves have current and former team members who have autism. We feel it is important for us to participate to represent and support our friends with autism.



## 2023 Local Food Bank Volunteering- Community Outreach

The team reached out to our local food bank offering to assist with any community support. Since they do their work when we are at school, we had to make one day for when we are done with competitions and the food bank has help needed. This project is still in the works until we are able to work out a schedule.

## 4/8/2023- Jackie Bartels Kids Conservation Festival- Community Outreach and VAL/VAL Robotics/FIRST® Ambassador Event

Another future opportunity the VAL Eagles will take in the future is the Jackie Bartels Kids Conservation Festival April 8, 2023, in Thibodaux, LA. At the festival, we will be working a booth and handing out FIRST® brochures, and information about our team. We will also be bringing our robot for display. Our team might also be helping with other activities being held around the event. The Jackie Bartels Kids Conservation Fest is being held for young children to get the chance to see and participate in many different activities such as duck calling, dog demos, and bait casting contests! There will also be a fun scavenger hunt to try and find the most Gator eggs!





# Team Events

## 1/21/2023- New Orleans Tech Qualifier Event- Competition

On January 21, 2023, the VAL Eagle Robotics Tech Team participated in the New Orleans Qualifying Event held at St. Mary Dominican High School. Our team won many awards, including the Winning Alliance, 1st Place for the Connect Award, 2nd Place for the Design Award, 2nd Place for the Inspire Award, and 2nd Place Overall out of 17 regional teams. Our team's success in this regional event earned us a spot in the State Competition in March, which will be held in Denham Springs.



## 2/21/2023- Hammond Tech Qualifier Event- Competition

On February 21, 2023, the VAL Eagle Robotics Tech Team participated in the Hammond Qualifying Event held at Hammond High Magnet School. Our team won many awards, including Finalist Alliance, 1st Place for the Motivate Award, 3rd Place for the Connect Award, and 4th Place Overall out of 20 regional teams. Since our team already qualified for State, this was an opportunity for some of our younger, inexperienced team members to learn to drive the robot and participate in different roles. **This was a great learning experience to mentor and train the next generation of VAL Eagle Robotics.**



## 8/8/2022 Build Day- Team Building and Support Event

We had a build day at the Eagles Nest at VAL St. Mary High School Site with parent volunteers and members. On this day, the team's goal was to build the 3-D printer shelf and cabinet racks for storage.

## 9/10/22 Season Kickoff- Team Event

We went to Denham Springs High School STEM and Robotics Center for our official kickoff to find out what our challenges and goals for the year were.



## 11/12/22 Ready Or Not Scrimmage- Competition

This event was held at the LSU college campus in the Patrick F. Taylor Hall. We came out 4th place seed and finalist alliance.

## 12/9/22 Christmas Party- Team Building Event

Our team planned a group Christmas party at the Eagle's Nest. The team got together to play games, have fun, and celebrate Christmas together.

