

# ROBOTICS AND GIRLS: BREAKING BARRIERS AND BUILDING THE FUTURE

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# 01.

## GIRL POWERED

When you hear the phrase “Girl Powered,” what comes to mind? How is it reflected in your team’s approach to robotics?





## ★ When you hear the phrase “Girl Powered,” what comes to mind?

What Girl Powered means to our team is that we ALL can accomplish anything. As Eleanor Roosevelt said, “You must do the thing you think you cannot do.” People from all races, genders and ethnicities have fought for the rights of all people. Susan B Anthony fought for our rights as women to vote, something we thought would never happen. Rosa Parks fought for us to not be mistreated based on the color of our skin, another thing we never thought would happen. Elenor Roosevelt fought for human rights around the world and Cesar Chavez fought to improve farmers’ working and living conditions, all things we didn’t think were possible. These activists and all that came before them and after them are the true meaning of Girl Powered. Girl Powered means inclusion for all, no matter the race, gender or ethnicity. Girl Powered means we can all do robotics, we can all work in the STEM field and we can all work and help each other. One gender is not better than the other. To us it means that even if we are girls we don’t need to be perfect but that we can do more than people think we can do. ★



## How is it reflected in your team's approach to robotics?

It's reflected in our team's approach to robotics in that we pride ourselves on being an all-girl Latina robotics team. Hispanics make up 16% of the American workforce, but only 6% of scientists and engineers, according to the National Science Foundation. According to the 2019 Census, women only represent 27% of the STEM workforce. And according to the 2020 Student Research Foundation only 2% of STEM workers in 2018 were Hispanic women. These numbers motivate us to try our hardest in robotics, to be innovative, unique and the best we can at all things from building to programming to documenting our engineering process.

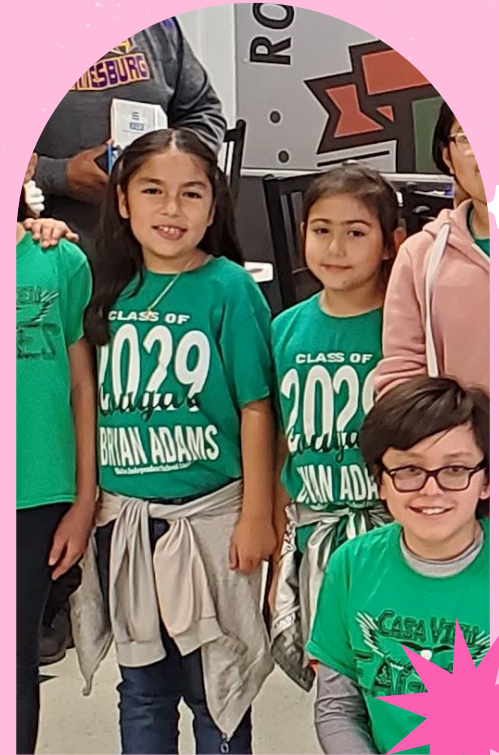
02.

# OUR STORY

How the LadyBots were formed!



Our story started with two little girls named Anabelle and Paloma. They started on a team with boys and girls and wanted to be drivers, to build something and to learn about programming but those jobs were taken by boys and they were too shy to say anything to them. Eventually they talked to their girl coach about starting their own team, an all girls team! A team where no one would be afraid to do every job! Their coach, Mrs. Cortez said she didn't know much but that together they would learn it all! Anabelle and Paloma went on a hunt to find more girls to join them on their journey of showing that anyone can do what they set their mind to! After searching for a couple of days, they found two other girls to join them! Emma and Wendy! They were the perfect addition to the team! And that is when we became the LadyBots! The LadyBots have now developed into a bigger message than two girls trying to drive. It turned into a message that we can all accomplish anything we set our mind to and that Latinas do have a place in STEM! The 2020 Student Research Foundation said, "Despite earning higher average grades than men, Hispanic women experienced the lowest levels of STEM confidence, and their interests and aspirations in STEM were lower than those of Hispanic men." We want all genders and races to feel confident about their abilities and for everyone to not be afraid to try new things! Not even our coach!



# OUR FOUNDERS



**PALOMA  
CERDA**

2019-2020: Notebook Manager  
2020-2021: Builder, Notebook Manager  
2021-2022: Driver, Builder  
2022-2023: Gone to Middle School but  
still helping by being Assistant Coach



**ANABELLE  
LIRA**

2019-2020: Field Manager  
2020-2021: Builder, Field Manager  
2021-2022: Notebook Manager, Driver  
2022-2023: Gone to Middle School but  
still helping by being Assistant Coach



**EMMA  
ALDANA**

Driver, Programmer, Builder



**WENDY  
ROSALES**

Driver, Builder



**MADISON  
ALONZO**

Programmer, Builder



**AALIYAH  
PORTILLO**

Notebook Manager, Builder

**OUR  
TEAM**

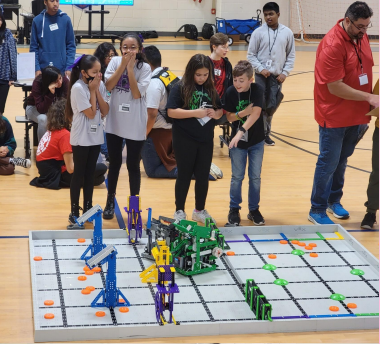


# 03.

## INCLUSIVE ENVIRONMENT

How does your team take initiative to create a more inclusive environment that attracts a diverse group of students?





In order to attract a diverse group of students, we like to encourage the students at our school to try new things because you never know if you can be really good at something that you never knew. You see, none of us had any knowledge about robotics before joining. We joined it because it looked fun! The way we recruit people is by looking at three things: are they a hard worker, are they willing to learn new things, and are they willing to do public speaking (because we love sharing what we do!). We don't look at race, ethnicity, or robotics ability but rather their personality and work ethic.

# 04.

## TRYING IT ALL!

Do team members try various roles on the team, and what do they learn from this experience?



All of our team members try all the roles on the team. We have all tried designing, building, driving, programming, documenting, and strategizing. By trying all the roles on a team it helps us see the strengths and weaknesses of our team members. This helps us determine who will be the “expert” of each job. We all help with everything our team has to do but whoever is the strongest at that role will be in charge of that job. This has helped us learn that it is super important to work on a team rather than by yourself because it makes any job easier. “Teamwork makes the dream work!” This has also helped us learn that one person CANNOT do everything, it becomes way too stressful!



# 05.

## DIVERSITY

How do you believe diversity of perspective changes your robot design, your team chemistry, and even your ability to succeed?



LIVE facebook  
JUEVES DE ABRIL  
28  
1:00 pm  
CHICAS EMPODERADAS



LADYBOTS, equipo VIQC de USA, TEXAS  
BURNI SANTI, equipo VRC de CHILE  
Chicas al Poder, equipo VIQC de Colombia.



HOST, ANICKA SÁNCHEZ

DIRECTORA INTERNACIONAL FUNDACIÓN GLOBAL ACSI

CELEBRAMOS JUNTOS EL DÍA DE LAS NIÑAS EN LAS TICS



The beautiful thing about us is that we are all so different. Emma and Madison have a musical brain, they're even in the school Orchestra! Wendy has a gamer brain, she loves video games and is in the Esports club! Aaliyah is the funny one, she keeps us all on our toes! We all look at things differently including our school life. Wendy and Aaliyah love math and are in the math club and Emma and Madison love Reading, you'll always catch them with a good book! This helps us see designs differently when we are in the planning part of our Design Cycle. We research robots and subsystems for a long time before building. Seeing things differently helps us weigh the pros and cons of everything. One thing we do have in common is that we all have a spirited personality! We love to talk and share our love for robotics with everyone. We've even been chosen to speak at different events because of our peppy spirit! We spoke at an online conference with different Girl Powered Teams from Columbia and Chile and we even gave a speech about our district at the World Championship! This has especially helped us be successful with our interviews with judges during competitions! Working together, our peppy spirit and our knowledge and love for robotics has won us several awards throughout the season. We've even won the Excellence Award twice at the State Level and won Excellence at the Create US Open!

# 06.

## STEM ROLE MODEL

Who is your STEM role model, and why? Does this person inspire you to have a more inclusive team/program? How?



# DR. MAE JEMISON

One of our STEM role models is Dr. Mae Jemison. She's the first African American woman to travel to space. Dr. Jemison is an inspiration to us because of her determination and resilience. Despite facing many challenges in her career, she never let them hold her back and she always pursued her dreams with passion and dedication.

Her story inspires us to have a more inclusive team because she is proof that anyone can achieve success in STEM fields, regardless of their background or circumstances. By seeing examples of successful women like her, we're reminded that diversity and inclusion are important values that can help our team do better. She also inspires us to be more open-minded and accepting of others, and to recognize the value that everyone brings to the table.

Overall, Dr. Jemison is a role model who has inspired us to pursue our own dreams, and to create a more inclusive and welcoming environment for all team members.





# Quotes from DR. JEMISON

These are some quotes from Dr. Jemison that really stand out to us and help push us to continue representing populations that are underrepresented in STEM and to keep pushing for diversity and inclusivity in our team.

- “Never be limited by other people’s limited imaginations...”
- “If you adopt their attitudes, then the possibility won’t exist because you’ll have already shut it out...”
- “You can hear other people’s wisdom, but you’ve got to re-evaluate the world for yourself.”





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