

Girl Powered High School Online Challenge

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Girl Power

BY UNIVERAL ROBOTICS

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"GIRL POWERED" TO US

When we hear the term "girl powered" we think about what impact a woman's voice can have on the world. So often, we are marginalized and ignored even though we bring so much to the international stage, even outside of STEM. "Girl powered" signifies how we, as girls, can create and invent in such a way that benefits all of humanity.



Hi! I'm Aylin and this is my first year on this team, though its my fifth year doing robotics. Up to this year, I've always been on a team that is at least half boys. Honestly, some of my best memories come from spending time with them and being on a team together. However, it always was apparent to me that I was expected to work mostly on the Engineering Notebook or a design element, which I do love doing. To me, programming always seemed daunting and something that I was incapable of. I never really had the chance to even try it or learn how it worked - a part of me thought I wasn't smart enough. Going into high school and taking more and more computer science classes, though, has helped me realize that trying something new, no matter how scary, can lead to incredible happiness. I'm still in the process of learning more about the coding that goes into robotics, but I'm so thrilled to be able to have the courage and support of my team to help me get there. Being out of your comfort zone and talking about topics you don't know much about can bring about a lot of impostor syndrome, but I've found that making mistakes and asking for help has been one of the most fulfilling experiences of my time in robotics. This year, I've been able to work on creating our team's website, learning about what makes a VRC robot (it's my first time at the high school level) and how basic robot coding works!





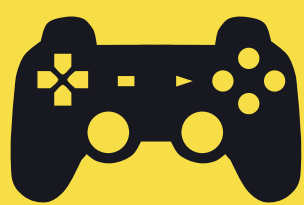
A STEM PIONEER

We greatly admire Katherine Johnson, a Black female mathematician who worked at NASA to calculate crucial numbers during the Space Race. She worked on trajectory analysis for the first human spaceflight on the Freedom 7 mission and was the first woman in the Flight Research Division of NASA to be given credit for a research report.

Johnson also famously went on to check the mathematic calculations of John Glenn's Friendship 7 orbital missions, where the astronaut himself said "if she says they're good, then I'm ready to go." Her career (as well as Dorothy Vaughan and Mary Jackson's) at NASA was documented in the 2016 film "Hidden Figures", which is a personal favorite of ours. She reminds us the power that a woman holds and how inclusive teams can change the world.

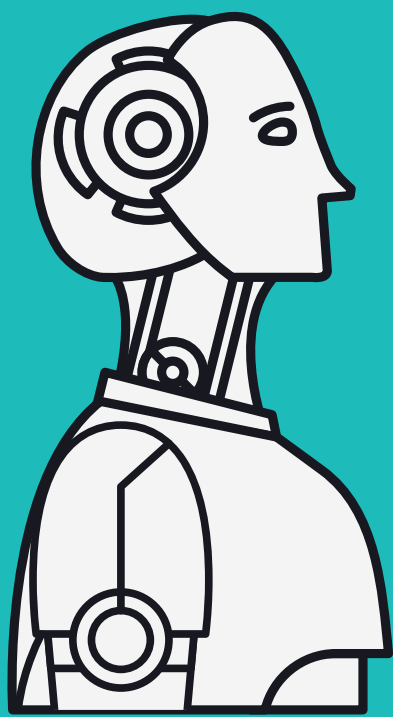
INCLUSIVITY & DIVERSITY

When we visit robotics competitions, we often notice how most teams are made up of all boys and rarely see another all-girls team. Even for those of us who have participated in robotics teams with both girls and boys, we see how robotics and STEM can be tailored to a man's success. It is difficult to cement your place in a competitive environment like robotics and even more so if you're the only girl in the room.



That's why we have hosted camps and outreach programs for young students of all genders and backgrounds to give them an opportunity to feel included and get involved. We believe that robotics is incredibly innovative and exciting and we want to make sure that we are trustworthy role models for our future teams.

In robotics, having a team is crucial to achieving success due to the mammoth nature of the competition - it's near impossible to do it on your own. It is also impossible to have everything work perfectly. There are always going to be mistakes and struggles along the way. Whether we're in practice or at an event, we always assess our performance and see where we can change for the better. At our first event this season, we had some disappointing runs with our autonomous and maneuvering of the robot. Our morale dropped throughout the day and we became quieter and more reserved, thinking that we had failed utterly and completely.



However, after one match, we came back to our pit and started talking about what worked and what didn't.

Opening up our concerns and notices really made us realize what we needed to change and improve on. It also made us feel immensely better, as we were able to point out our successes of the day that may only be apparent to someone sitting in the audience or to the driver. Being able to comfortably talk to each other allows us to confront our weak points and analyze them as a unit rather than five individuals. Our robot, our code, our notebook, and our website is the culmination of our teamwork and our differences. Without bringing these variations in opinion and perspective to the table, we never would have been able to reach where we are.