engineering - girl powered

GOOGLE GIRL POWERED INITIATIVE

What does it mean to be “girl powered?”

Officially, it means encouraging a diverse group of students to enter STEM, and welcoming all students into the robotics community. I would like to think that it is more than that; to be “girl powered” is to not only accept the introduction of new, diverse students into STEM, but also to actively work on spreading their unique ideas and skills throughout the field.

When I first joined VEX in my sophomore year, I was unsure about working in a majority male environment. Most of my friends were girls, and I did not know how I would fit into the team dynamic. At first, I felt unsure of myself and my abilities. My teammates—Gabe, Eric, Sanjiv, Udit, and Teja—were all very skilled people, and as a somewhat quiet person, I felt nervous about presenting new ideas to the group. I feared that my thoughts would be criticized harshly, ignored, or outright rejected.

Soon into the season, I found that my fears were unfounded—my teammates were welcoming and listened to my input just as they would another boy on the team. That is not to say that I was treated as “just one of the guys” in a negative sense, but my team treated me no differently for my being a girl. I was accepted into the group, and it allowed me to develop into a better engineer and a better communicator.

One of the most important aspects of VRC is a team's ability to share ideas within the group and build upon each other's creations; if a team limits its own creativity by excluding or discouraging others from diverse backgrounds, they lose out on the most important advantage of the competition—a set of varying ideas which can be combined and adjusted for the best outcome possible. I like to think of my team's treatment of me not as an accommodation of sorts to the barrier of gender, but rather as an embracement of the advantages that come from a wider set of ideas. Our diversity as a team allowed us to succeed in ways we could not have succeeded in if we had not been open to new perspectives.

Now that a new season has begun, our team has lost a few members, but gained some too. This year we welcome Luke and Pierce to our team, and the two of them offer fresh ideas to our team for the season to come. Each individual in our team's personal skills and experience allow them to better adapt to specific challenges of the competition. Gabe is our driver, and has experience designing and building in VEX. His prior knowledge allows him to better design and adjust our robot for driving, since he knows what is easier or harder to control. Eric does the majority of our CAD designing and building, since he is experienced with engineering design and building techniques in VEX. He can give the rest of the team information on the best ways to build a piece and can draw up plans and models for reference and testing. Luke's experience in programming and STEM activities in school allows him to help with programming and building aspects of the robot. Pierce also has experience with in-school STEM and related activities outside of school, which helps him in the area of building and troubleshooting issues with the robot. Teja is skilled in math and the sciences, which makes him essential to our team's success. He can tell us what designs and plans are feasible, and can help solve problems with torque, speed, and other variables that we encounter over the course of the season. As for myself, I also have experience with science and engineering in school, as well as my out of school activities, which have made me more skilled in organization and design. This makes me a good match for documenting the design and development of our robot, an important part of the competition as a whole, but I also help in building the robot and solving problems in the design as we encounter them. Mine and my teammate's roles in our group and our success in this dynamic would not have been possible without a welcoming attitude towards diverse groups of people.

Like my team's openness and inclusivity, a "girl powered" attitude in the professional world has proven influential and successful. Just this past May, a group of astronomers, led by MIT computer scientist Katie Bouman, developed the algorithm which generated the first-ever image of a black hole, something previously thought to be impossible. Revolutionary, this news spread around the internet and the real world like wildfire. One image became particularly famous, besides that of the phenomenon itself—an image of Bouman sitting in front of the newly generated silhouette, clearly shocked and excited.

While the discovery itself is most certainly impressive and historic, the woman who led the team behind it has made an impact that extends far beyond her own great work in the field. She has inspired many young girls to pursue careers and interests in STEM. This effect is the ultimate goal of a "girl powered" environment: not just to allow girls and women to enter STEM fields, but to encourage them to thrive, discover, innovate, and inspire future generations of women to follow in their paths. Science, math, technology, and engineering are massive fields with incredible inventions and discoveries littering their history—but with a history women were left out of for so long, we have only realized half of our potential.

Credits

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