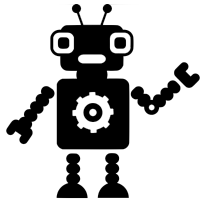
Our STEMinist Journey



By Jenna Kronenberg & Stephanie Cho

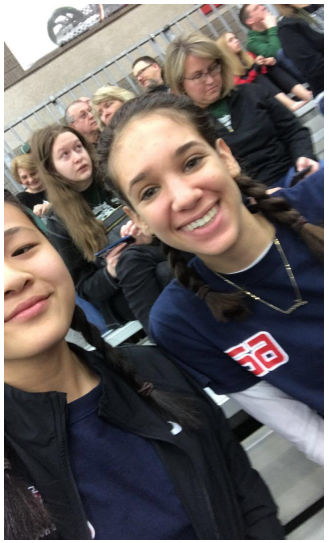
Our journey began...

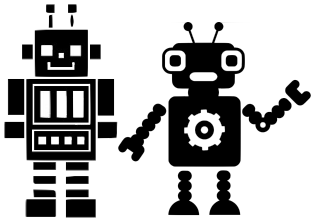
Jenna decided to join her school's robotics team in the fall of 2016. She was in the ninth grade at the time and had been taking computer science classes in school for the past year. Jenna really wanted to use the programming skills she had learned. She went to the informational meeting and was put on a team with other ninth graders. However, she was the only girl. The boys were friendly to her, but they wanted to do all the programming, building and driving of the robots themselves. She learned from watching, but felt she could learn so much more from doing. And Jenna knew she could do just as well as the boys if not better.

When Jenna moved to the high school campus in tenth grade, she decided to give robotics another try. This time, however, she convinced her friend Stephanie--another programmer--to join the team too.

Second Attempt

Jenna and Stephanie went to the informational meeting for their high school robotics team in the fall of 2017. Since they were both novices, they wanted to join a team with more experienced team members. Their school had a well-regarded robotics team, so Jenna and Stephanie were really excited to to learn from their teammates. However, when they got to the meeting, once again, all the team members were male and none seemed to want to pair with them. Therefore, in some ways as a default, Jenna and Stephanie became their own team and learned to build, program, and drive robots themselves.





Competing

Jenna and Stephanie went to two competitions during the 2017-2018 robotics season. At the first competition, their “all girls” team of two did not do well. They lost all rounds but one. In addition, all of the boys’ team basically ignored them. It is a different experience for girls than boys, because all the boys group together. But Jenna and Stephanie found hope. They did win one round. And, there were other “all girls” teams who competed and placed well at the tournament. Jenna and Stephanie were determined to work harder on their robot and to do better in the future.

Improvement

At their second competition, Jenna and Stephanie competed much better. They had worked hard in advance of the tournament to improve their robot--and it showed. Although Jenna and Stephanie did not win the competition, they won more rounds than in the prior tournament. In addition, they impressed the judges who awarded them the "judges award" for teamwork and perseverance.

Progress!

By the end of their sophomore year, Jenna and Stephanie had earned the respect of the boys on their robotics team. When the boys qualified to "Worlds," Jenna and Stephanie went to the competition to help out and support them. They also ran a practice field as official volunteers, which allowed them to meet other competitors from around the world. When their team returned from "Worlds," the seniors--who initially wanted little to do with them--selected Jenna and Stephanie to be co-captains of the robotics team for the next school year.

Leadership

As the new robotics team captains during their junior year, Jenna and Stephanie tried to increase the number of participants, including girls. They were able to attract around fifteen new sophomore boys and nine new girls, doubling the team's size from the prior year. Of the nine new girls, six of them were brand new to robotics. Jenna and Stephanie sought to create a welcoming environment to all, which they believe inspired more girls to engage in STEM.

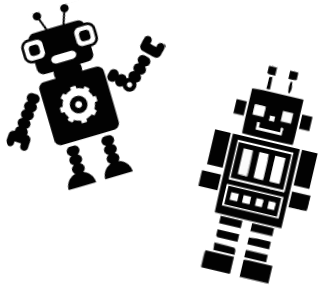
Teamwork

Their robot building process is unique because they work together on every step. Judges are always surprised when Jenna and Stephanie explain their process. Since they both feel they still have a lot to learn, they both design, build, program, scout, and drive. They love working together to engineer and build robots.

Challenges

Jenna and Stephanie have both grown tremendously in robotics, but challenges remain. Even though it might sound silly, Jenna and Stephanie found it challenging using the tools and materials needed to build robots, such as the hacksaw, to which they previously had no exposure. In addition, one of their biggest weaknesses continues to be driving skills. Jenna and Stephanie can build robots that can complete the challenges, but it's an entirely different skill to drive and perform on the field successfully. Driving has been the most difficult because they did not grow up using a controller. Male players who grew up playing video games or controlling toy cars have an edge when it comes to driving.

Girl Powered



Throughout their two years in robotics, Jenna and Stephanie have faced obstacles. From initially not be given a chance to compete by male team members to learning the necessary skills, they are trying to change the environment to make robotics inclusive for all. They want to make sure that in the future it is easy for girls to get involved. And as captains, they are constantly trying to better integrate their teams and make sure all team members have a meaningful role. Jenna and Stephanie are excited about “Girl Powered” because it is a great step to make robotics more inviting for girls.

Thank you!

Written by Jenna Kronenberg and Stephanie Cho
Team 62Z
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