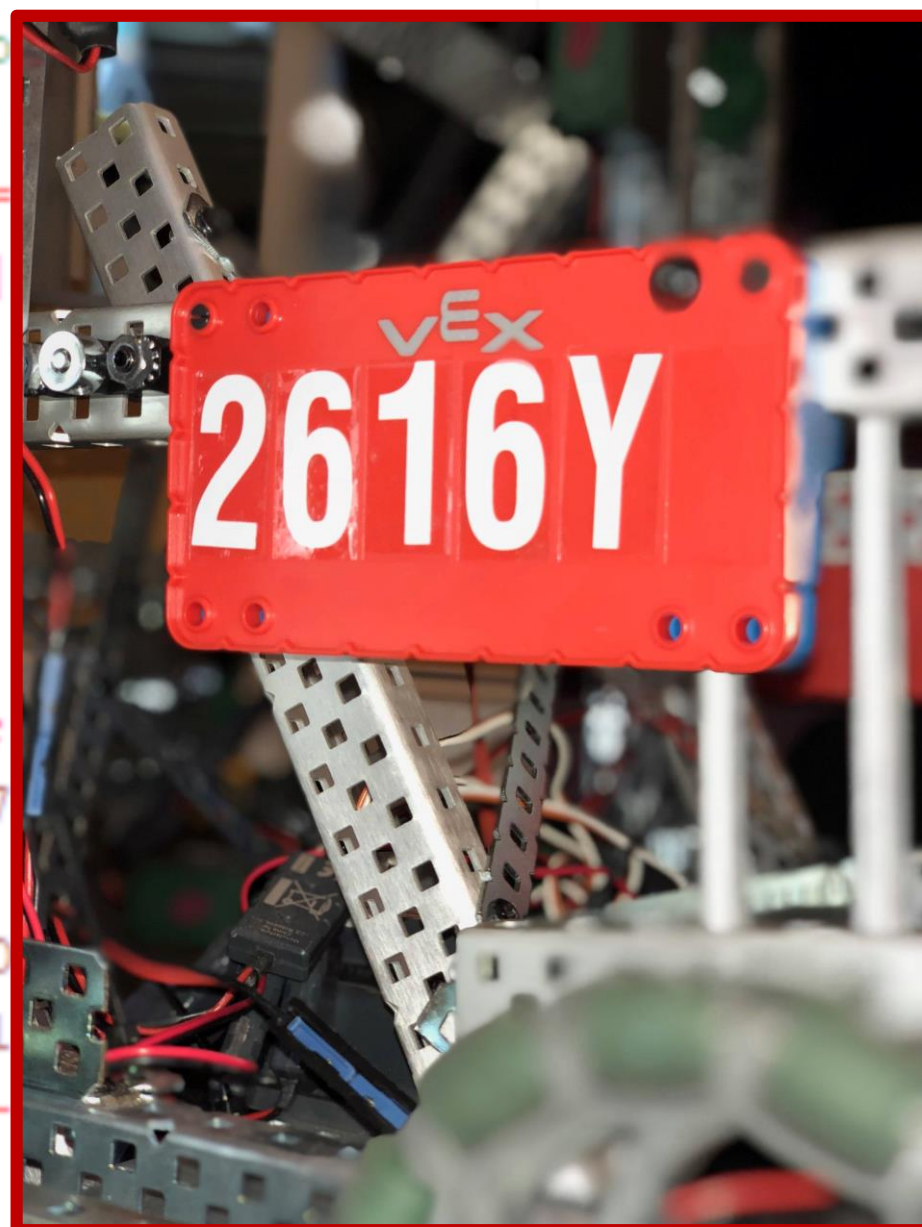


GIRL POWERED:



**Y-NAUGHT
GIRLS?**

WHAT DOES “GIRL POWERED” MEAN TO 2616Y?



Trusting in my abilities and knowledge enough to tackle obstacles in a merit-defined rather than gender-defined manner.

-Shir

Having confidence and independence to break away from the expected and escape standards.

-Anthea



To step outside your comfort zone and experience something new

-Caroline

Uplifting your peers, encouraging them to go above and beyond in their pursuits to show that girls are fearless and capable in all that we do.

-Vidhya





Looking in the face of adversity with determination, and consistently overcoming society's obstacles.

-Caylin

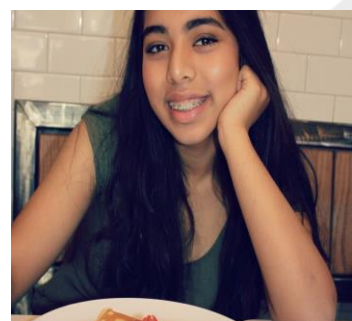


Being passionate in all that you do-being independent, in that you are driven to prove others wrong.



Fostering an environment that values personal-growth and positivity, in which girls and boys work side-by-side to further society.

-Nafessa



NORA STANTON BLATCH

Ironically, I learned about Nora Stanton Blatch while interviewing the descendant of prominent suffragette, Elizabeth Cady Stanton, for a history project. Her name was Coline Jenkins. Jenkins informed me about her family's involvement in women's rights, and spoke particularly of her grandmother,

Nora Stanton Blatch, the first female engineer.

She included details of the many struggles Blatch had to endure as a female in the engineering field. And suddenly a wave of shame washed over me. Though I always found engineering interesting, I never considered it a career due to my irrational fear of criticism. Now, those prior feelings felt insignificant compared to the trials Blatch faced. Women like Blatch paved the road for girls to be able to pursue their passions without judgment.

Besides, if Blatch defied society, the least we can do is conquer our fear of failing.



HUMBLE BEGINNINGS

Truthfully, I'd love to gush over how each of us, with our differing skills and personalities, just clicked and how we knew from the beginning that robotics was for us. But, for us it took time.

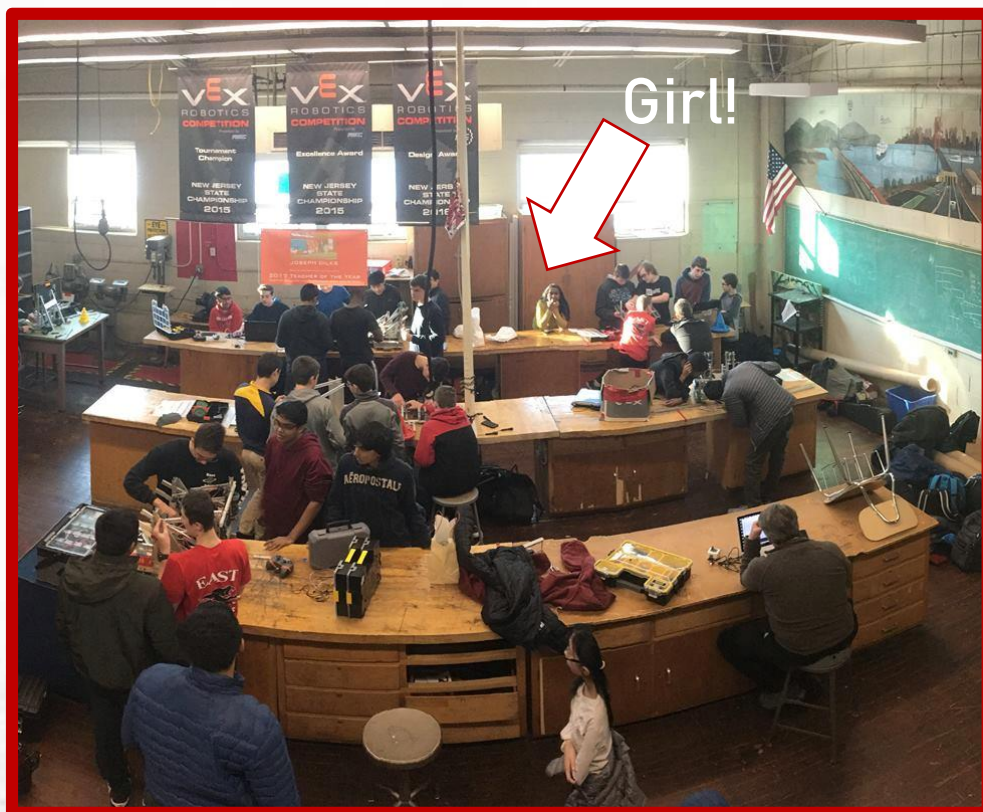
In the beginning, we didn't have a burning passion to learn and succeed. Honestly, we were a thrown-together team bonded by our mutual feelings of reluctance and inexperience.



And, as if it weren't bad enough that the robotics room permeates with masculinity, at the first meeting, packs of boys were already crowding the parts closet and debating the "perfect autonomous strategy." Intimidated, I claimed my corner in the back of the room, and waited for some directions from the advisor. However, they never came.



As fate would have it, six other equally-lost girls were scattered across the room and before we knew it, we formed a team.



Hardly knowing each other, our first task involved befriending one-another. With our shared interest in STEM and connected tales of embarrassment walking into robotics, that came easy. Besides, when you spend hours with one another, struggling to understand a completely foreign field, you can't help but to bond over it.

THE DREAM TEAM - Y₀?

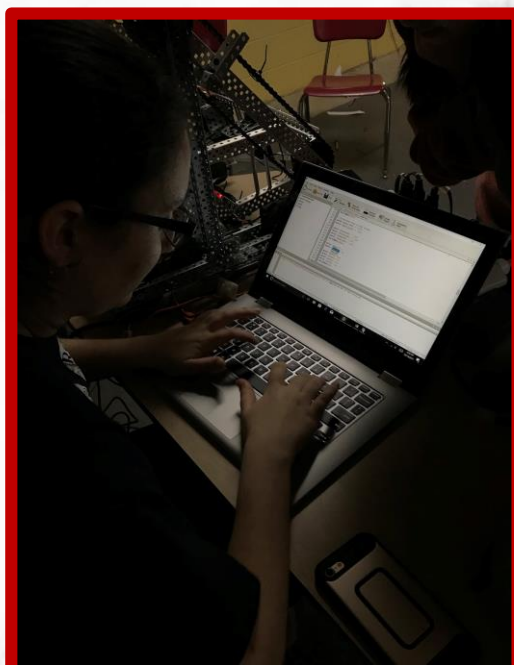
But what really helped us to blend was that we hail from different ends of the school. From student-government to music-groups, the newspaper-staff to dance-troupes, we all have separate experiences and individual strengths and weaknesses. It was for these differences that we merged to form an inclusive team, in which everyone offers a unique perspective.

Perhaps the real struggle, however, was constructing the robot. As beginners, we didn't know where to start. Embarrassingly, I hardly knew how to work a screwdriver. Needless to say, a difficult journey awaited us.



ROBOTIC ROLES

Arbitrating team-roles was at first a slow process, but the more time spent together, the more we started to understand one another's strengths, weaknesses and interests. We experimented with different tasks, but it became clear. Caylin, Caroline and Anthea showed promise with regard to building by their ability to pick up on what parts go where. Fittingly, Shir, Vidhya and I had the dedication and patience to understand the foreign language of programming. And it only makes sense that Iris, the most organized member, document our journey. For developing design/strategy, we regularly met to discuss our best options.



PROGRAMMING



On a mid-July afternoon, I, along with the two other programmers, gathered with determined mindsets and fully-charged laptops. Due to our lack of programming experience, we had no clue where to start. And so, after learning fundamentals of C-based languages, we began experimenting with PROS. But, after hours of frustration due to lack of PROS tutorials, we started to explore similar languages. Our research led us to a myriad of resources for ROBOTC, and so we quickly switched.

Through countless PDFs, YouTube tutorials, and github pages, we completed the controls. Our tireless work only filled 4 pages, but the instant we connected our code to the robot and watched it come to life, it was worth it.



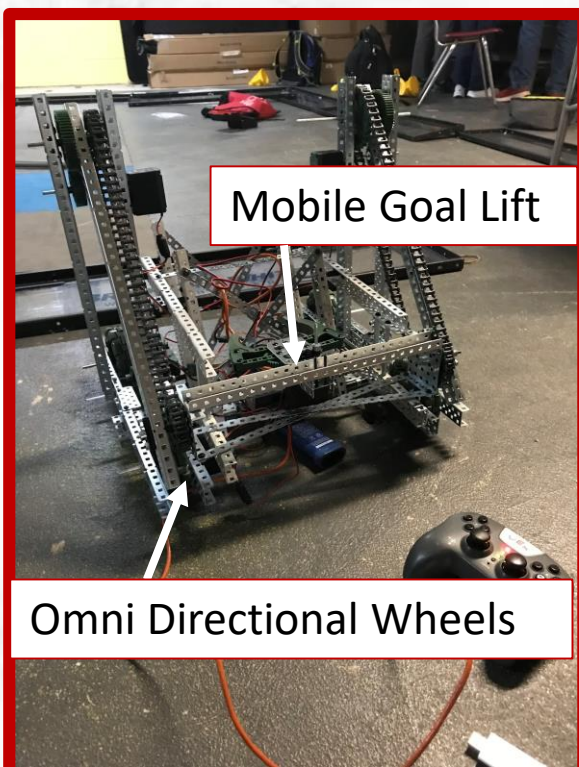
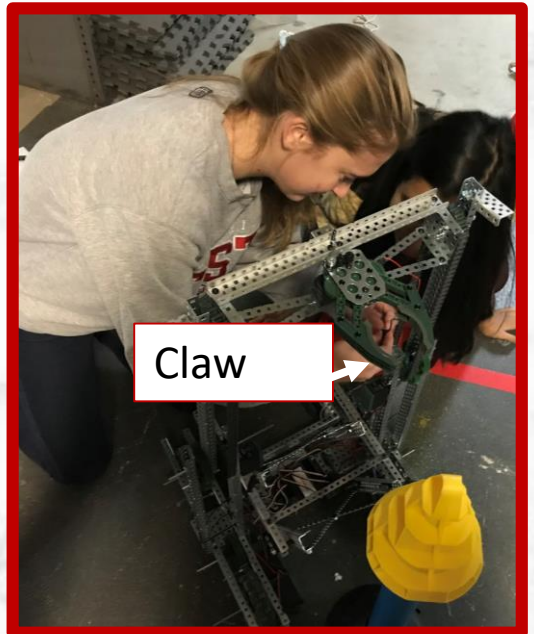
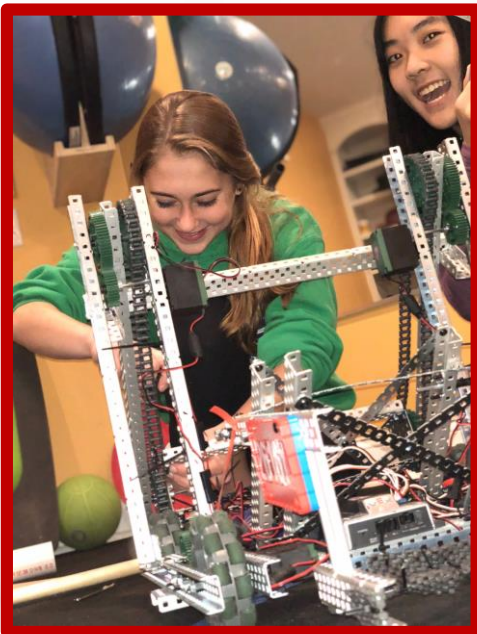
DESIGN & BUILD

Initially, we focused on 4-bar/6-bar designs. At the time, our goal was to pick up and drop cones onto stationary-goals. We quickly understood, however, that we aimed too low and that our build skills far exceeded what we expected.



And so, we started to explore more complicated designs. Our current design can stack 3 cones onto a mobile-goal and place that into both the 10 and 20 point zone with relative stability. And though stationary goals are not our main concern, we can stack if necessary.

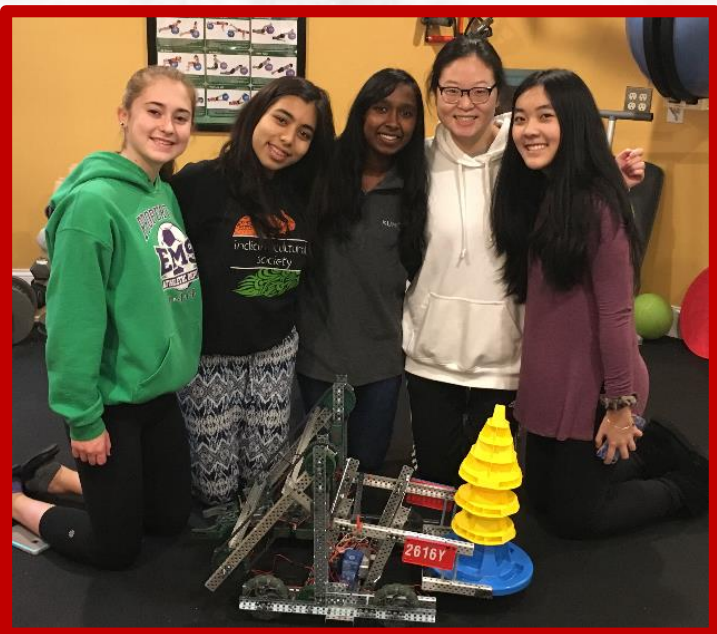
The season is only beginning. With newfound faith in our abilities, we are already designing a double-reverse-four-bar.



**BESSIE
THE
BOT**

Girl⚡Powered

Clueless as we were, we resorted to YouTube to better understand the various aspects of this year's competition, when we came across the "Why Girl Powered?" video. The video was life-changing to say the least, as we finally realized robotics was for us. The video fueled us with a drive to overcome our initial misgivings by learning to design, build, and program- everything that had once intimidated us. Seeing relatable females talk about STEM reassured us that we too could continue this journey with VEX. We hope that one day, younger kids will look up to us the same way we do to those women in the video.



THE FIRST COMPETITION-12/17



NERVEWRACKING. It was our first robotics experience, we weren't expecting much. If we could win one match, we'd be ecstatic.

Our first match was chaotic to say the least. Our driver, Caroline, came equipped with nervousness and just a week of driving experience.

Our auton malfunctioned, *and* we only scored 10 points the entire driving-control-period. But, as they say "at your lowest point, your only direction is up." And up we went.

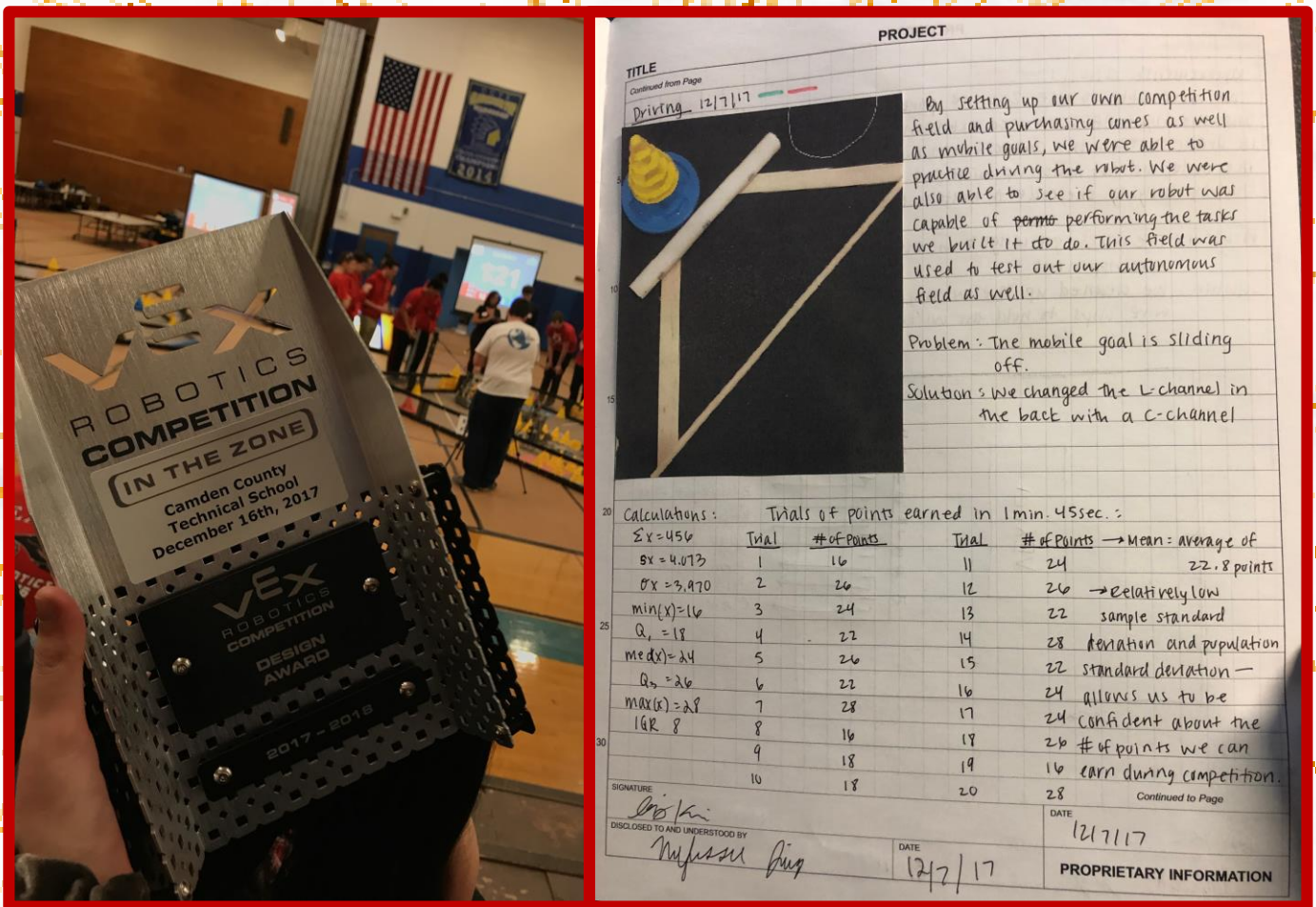


Not even knowing what the programming-skills competition was, we still ranked second overall. Better still, during our match against a top team, 2616E, our auton worked, mitigating the effects of our loss to only 8 points.

It was perseverance that carried us all the way to semifinals.

Other teams repeatedly suggested playing defense. Little did they realize, however, that we score highest when we are on the field playing offense, like everyone else. More so than anything, this competition proved we don't need to rely on other and that we too have potential. We're girls- it clearly doesn't mean we can't compete at the same level.

But, the crown of the competition was receiving the Design Award, something we were pleasantly surprised by.



REFLECTION

Looking back, it astounds me how fearful we were to join robotics. The fact that it took three years to gain the courage to join is upsetting. Our only hope is that girls don't have to experience the same.

Unlike many, we didn't have mentors holding our hands throughout the process and really, it was for the best. Through self-teaching, we built resiliency. This process, though mind-numbing at times, forced us to access our problem-solving skills and tested us like no activity has ever before. We have YouTube, Google, and the Girl-Powered Initiative to thank for not only teaching us how to program, but for helping us discover our voice as confident females.

Though novices, we mentor underclassmen girls everyday to pursue robotics and to not be afraid of failure.



Currently, there is a disgustingly disproportionate men:women ratio in STEM-related fields.

We want to reverse this, starting with education. We are heavily involved with our school's Women in Science chapter, with many of us holding leadership positions. Through the club, we encouraged 60+ girls to explore STEM-related careers by hosting community-wide events featuring guest speakers and by taking trips to women-in-STEM events/hackathons.

Women are **50%** of the workforce



Women are **24%** of the STEM workforce



But **50%** drop out in the first 10 years⁽¹⁾

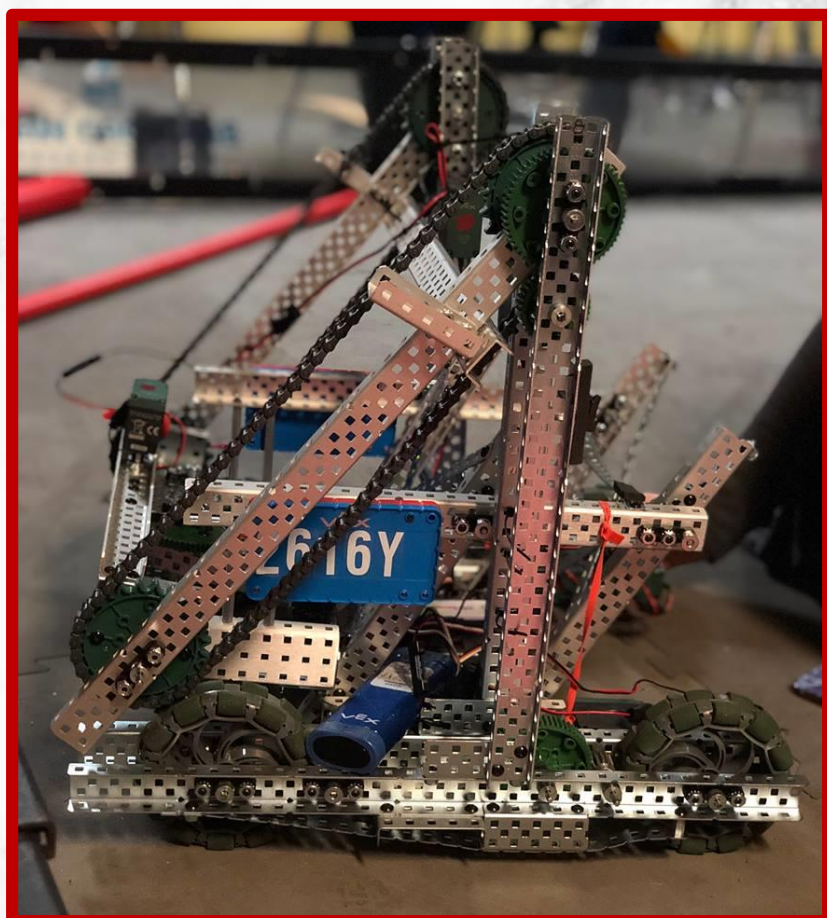




Women in Science Club Members!

Though Cherry Hill East has a highly-esteemed robotics program, it wasn't until this season that the first all-girls team formed. It isn't that girls aren't interested in STEM. The societal pressures girls face are to blame for deterring them from embracing their interests. It wasn't long ago that we faced the same situation. And hopefully, it isn't long before we help get girls out of these situations.

If we can do it, any girl can.



Check out the article about us in our nationally-recognized school newspaper!

<https://www.eastside-online.org/news/first-all-girls-east-robotics-team-shoots-for-the-stars/>

Credits

**Girl-Powered: Y-Naught Girls?
Nafessa Jaigirdar
2616Y(Y-Naught)**

Girl  Powered