

From Ballet Shoes to Rotating Gears : Discovering a New Stage

-- VRC Girl Powered Online Challenge 2018 --

By Zoe Hsieh

My name is Zoe Hsieh, I'm a senior at Pingree School, and a robotics rookie. Never in a million years would I have thought that I would end up here, writing this story.

I have always loved Legos, but not the pink flowers or the Barbie Lego sets that others pushed upon me. To their surprise, I was mesmerized by the creation of three-story structures, rollercoasters, and BMW's. Every afternoon I tackled a new page of directions, spending hours creating a new piece. Step by step, I transformed little plastic blocks into a something incredible.



During my teen years, my commitment to dance and music increased, and my free time was dedicated to infinite hours of rehearsals, leaving a limited time for Legos. Discovering dance and music, I surrendered to the teenage pressure to

conform, and refused to join STEM activities.

Entering high school, my identity was set as a dancer and a musician; other than academics, these were the only things on my mind. I joined dance team, continued to play flute in orchestras, made friends, and coasted on through my life in high school.



I am the daughter of a scientist and grew up at watching my dad work in his lab. His constant encouragement and help in my STEM-related studies is the reason why I have always favored math and science, as these classes were intriguing as well as easier for me to grasp, but that was it, nothing more than just a couple of classes.

Fast forward to junior year.

It took only one class to impact my life and point me in a new direction. After enrolling in my first programming class, I learned basic coding skills and became totally immersed in completing task after task. My teacher then pulled me aside. “You should look into the robotics team. We could use someone with your eye for detail,” he said.

Despite being intrigued by his offer, I was afraid of what this could mean. It wasn't just the setting of the Makerspace, a stuffy basement-like room without windows, but also the

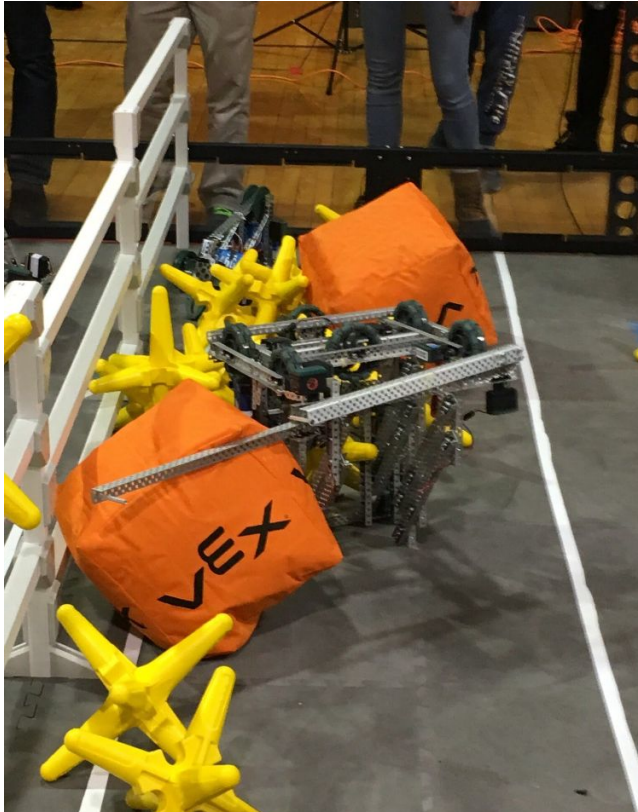
expectation from the students who occupied the space. They were students I had never come into contact with -- all boys -- and I was intimidated by their reputations for academic excellence. My first impression of the robotics team was a group of nerdy boys building robots with ease. I wouldn't fit in. However, with encouragement from my parents, my advisor, and a friend, I took a chance.

Last season on Vex Starstruck, I came in seeing just large orange cubes and oddly shaped yellow jacks. Each day I dreaded walking into that room and listening to a language I couldn't understand as I watched my teammates swiftly manipulate the different channels and gears, while I sat there silently, taking it all in.



Two weeks into the season, something clicked. At 2:40, when some kids rushed to the fields, I happily stepped into our Makerspace. The people I had once considered exclusive and unwelcoming had truly become my closest friends. They created a welcoming community that allowed all of us to embrace and just be ourselves. The season definitely came with its ups and downs, wins and loses, but overall, it was a time I wouldn't trade in for anything.

I still remember my very first competition at BU Academy where I desperately wanted to try driving. Apparently being a pro at Mario Kart on Wii cannot compare to the mental capacity needed to deal with the stress that comes with being the driver, but I wasn't quite aware what



was about to come. I proceeded to the field with a recently put-together robot and played. The result somehow became a completely upside down robot; still a year later, I have no idea how that even happened. This was my first taste of failure in robotics, and many more came after that, but each one always resided in a funny memory and was improved upon each time. Take my coding skills- the first time I coded I wondered why it was so easy, but then I ran it and the

screen was covered in red. Turns out colons are easily forgotten; I still forget to include them today.

I never could have anticipated that the heat of robotics competitions would be so thrilling: the excitement of the battle, roars from the audience, and the intense flashes of fear in an opponent's' eyes as the clock ran down. There was a



theater of kids like me who worked together, pushed each other to succeed, and never failed to lighten the mood. Being able to build and communicate with students around New England was a perfect combination. The team ignited a change in me that no one saw coming and sharpened my identity.

As I evolved over the past year, the young Lego-builder inside of me reemerged. I went from not knowing the name of anything, referring to items as “the skinny one” versus the “fat



one,” to now being able to differentiate a five-sixty-fourth allon key from a three-thirty-second one. Even though I definitely still have lots to learn, I can walk away from that last season of learning with a newfound meaning of teamwork and skills.

This season, I stand with a team of three, being the only girl. Though we are small, we definitely have equal participation between both genders and have divided up each task to work as productively as possible, with some time to fight over what music to play as we chat about the day. I wouldn't say that my being a girl necessarily alters our team's approach to robotics; I believe that I just simply bring another perspective to the table to consider. Being a girl does not change the team drastically, I'm just another teammate. I can see how I fit into this puzzle of thinkers, whether it be communicating with other teams, keeping an organized engineering



notebook, or offering ideas every once in a while; there's always a spot for me. With the words, "Girl Powered," comes strength and courage to speak out our own ideas and take a stand even when people

don't listen. It doesn't matter if there are fewer girls in this community, because we still have the same voice to invent. At first I was afraid that I wouldn't be of any help with my limited knowledge, but even then I think I saw things a bit differently; and trust me, even the dumbest ideas turn out to be helpful.

In the midst of the college process, I truly have to thank this team for helping me narrow down what I wanted to focus on in college.

Rather than some kind of math major or some kind of science, I decided to apply to engineering schools, and I am excited to attend Tufts University next year as an engineer. When I entered Pingree, I came in as a student, dancer, and musician. But now I can graduate as an engineer as well.



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~Credits~

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