

Team

2772J:

The Metalbenders

Girl Powered

VRINDA - TEAM CAPTAIN

MEGAN- LEAD BUILDER

JIA - CAD AND BUILD

RUHI - PROGRAMMER

SNEHA- NOTEBOOK MANAGER

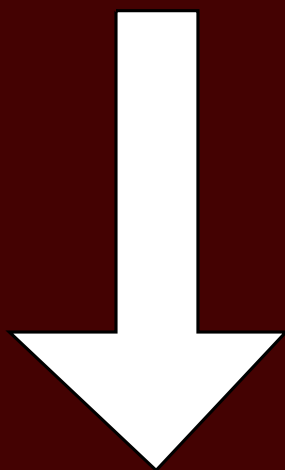
NIKHI- CAD AND BUILD

Location: San Ramon

Our Story



The beginning of our first VEX Robotics season



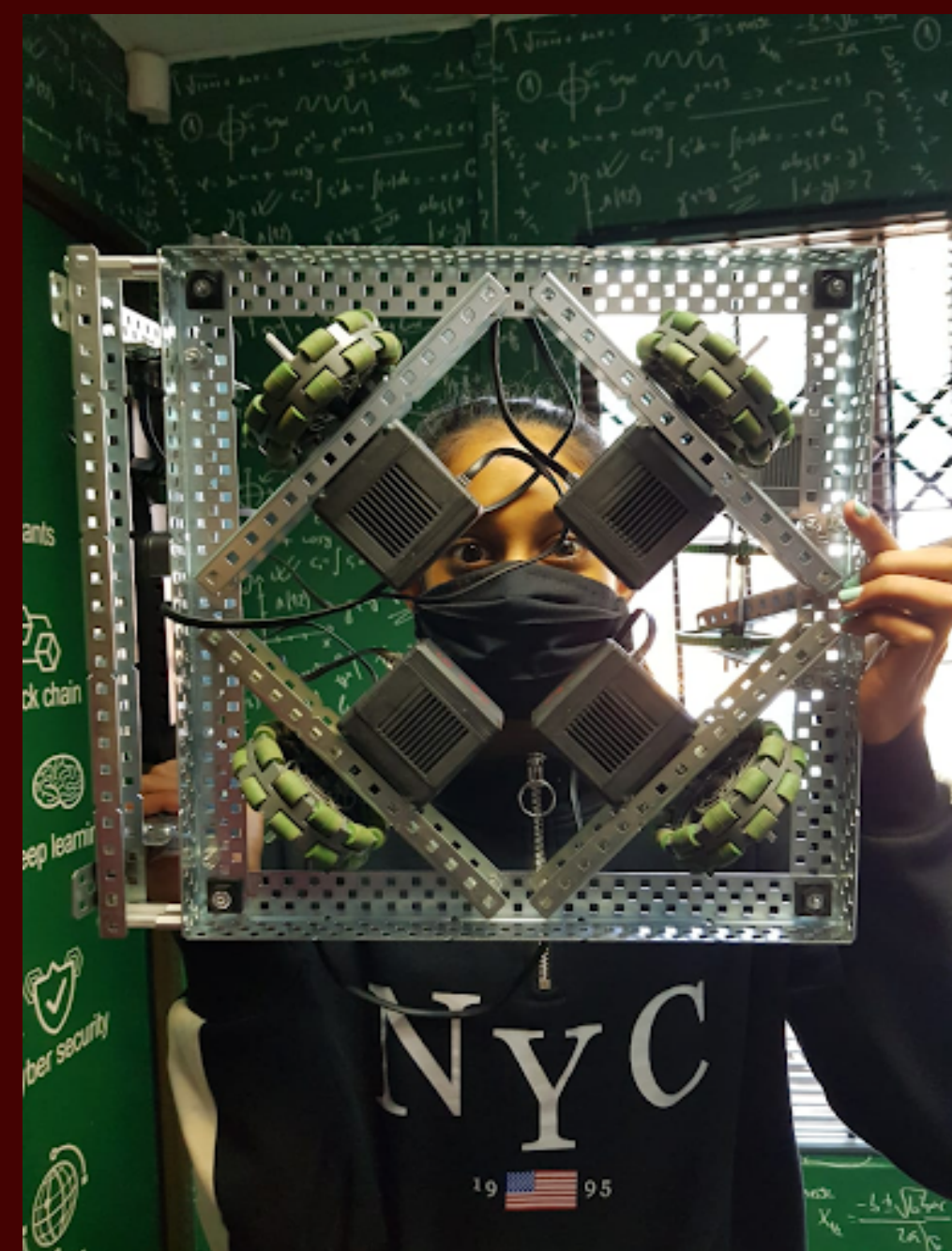
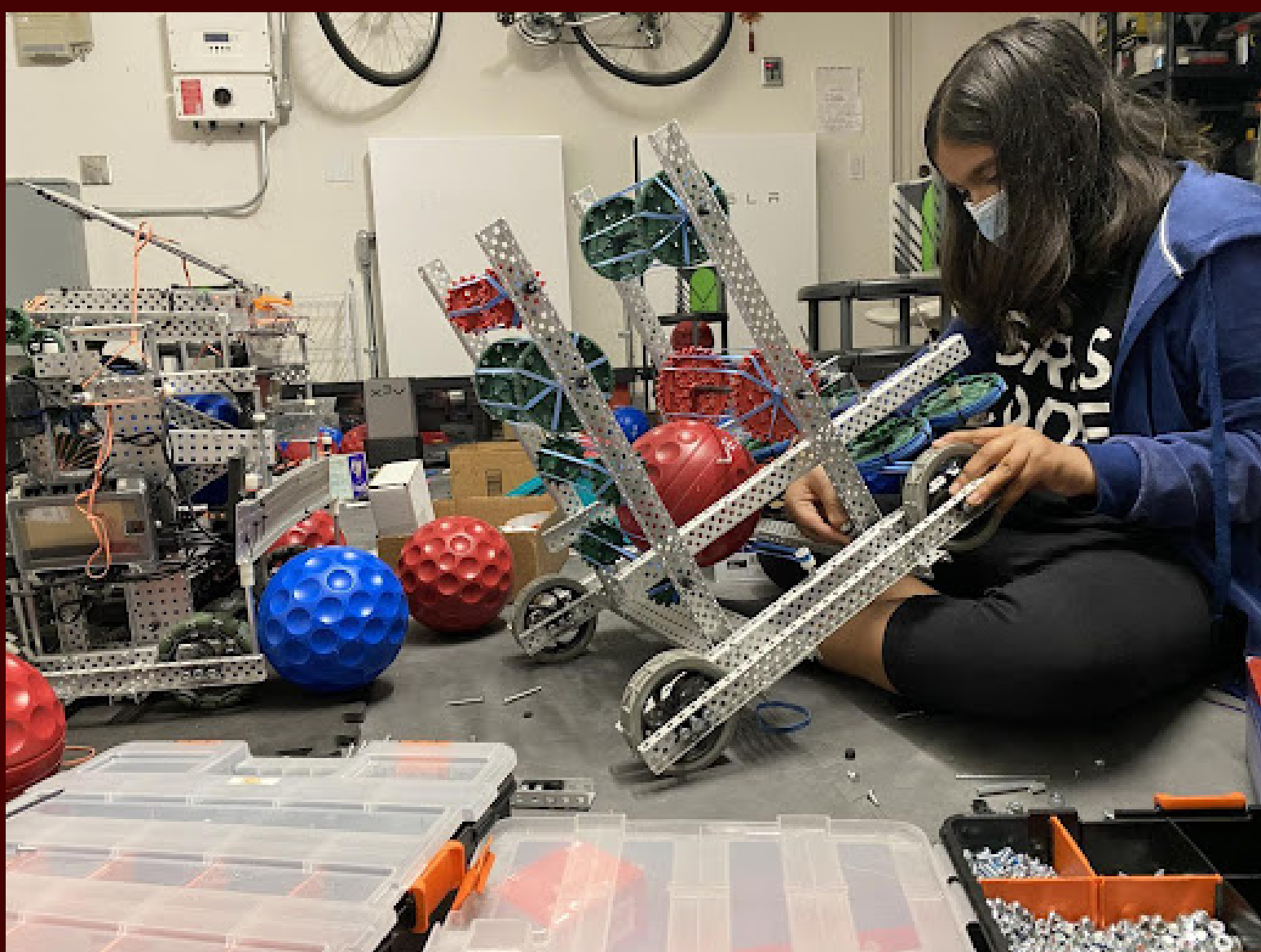
The end of our first VEX Robotics season after VEX Worlds: Change Up

2772J, or "Think Fast", is an all-female and non-binary high school VEX Robotics Competitions team built off of the struggles that girls and non-binary individuals face in the STEM field and the great need for equality and inclusivity in STEM learning. VEX Robotics has always been a major platform for young robotics enthusiasts to grow their skills and compete.

However, in our community, we face a major challenge of STEM inclusivity, and this team hopes to be one step forward in changing that. Girl-powered to us means building a safe, non-toxic environment for all genders to positively compete in VEX Robotics, which is our goal. Every day, girls across the workforce face prejudice and discrimination from those around them, but this is most evident in the STEM field. All of our members have participated in local VEX robotics teams for one season or more, yet we all ended up with the same experience. We have seen the mistakes of our compatriots in our area, as many VEX Robotics teams around us have been turned over to toxicity and don't maintain gender equality, inclusivity, and positivity in their teams. The robotics teams in our area eventually became so detrimental to our mental health that we decided to start our own and to avoid this toxicity, we built a driven, dedicated community set out to win, conquer, and grow without pushing each other down. We took the mistakes of others and we used it as a framework for what to avoid when making our team. "Think Fast" is built on a foundation of positivity and inclusivity in the face of challenges and competition rather than toxicity and inequality. We build each other up and don't tolerate discrimination of any kind, and we are proud of our values. Together, we hope to build a better future for all of us and act as an inspiration for those discouraged, regardless of the stereotypes around their gender identity, race, ethnicity, sexual orientation, or disabilities.

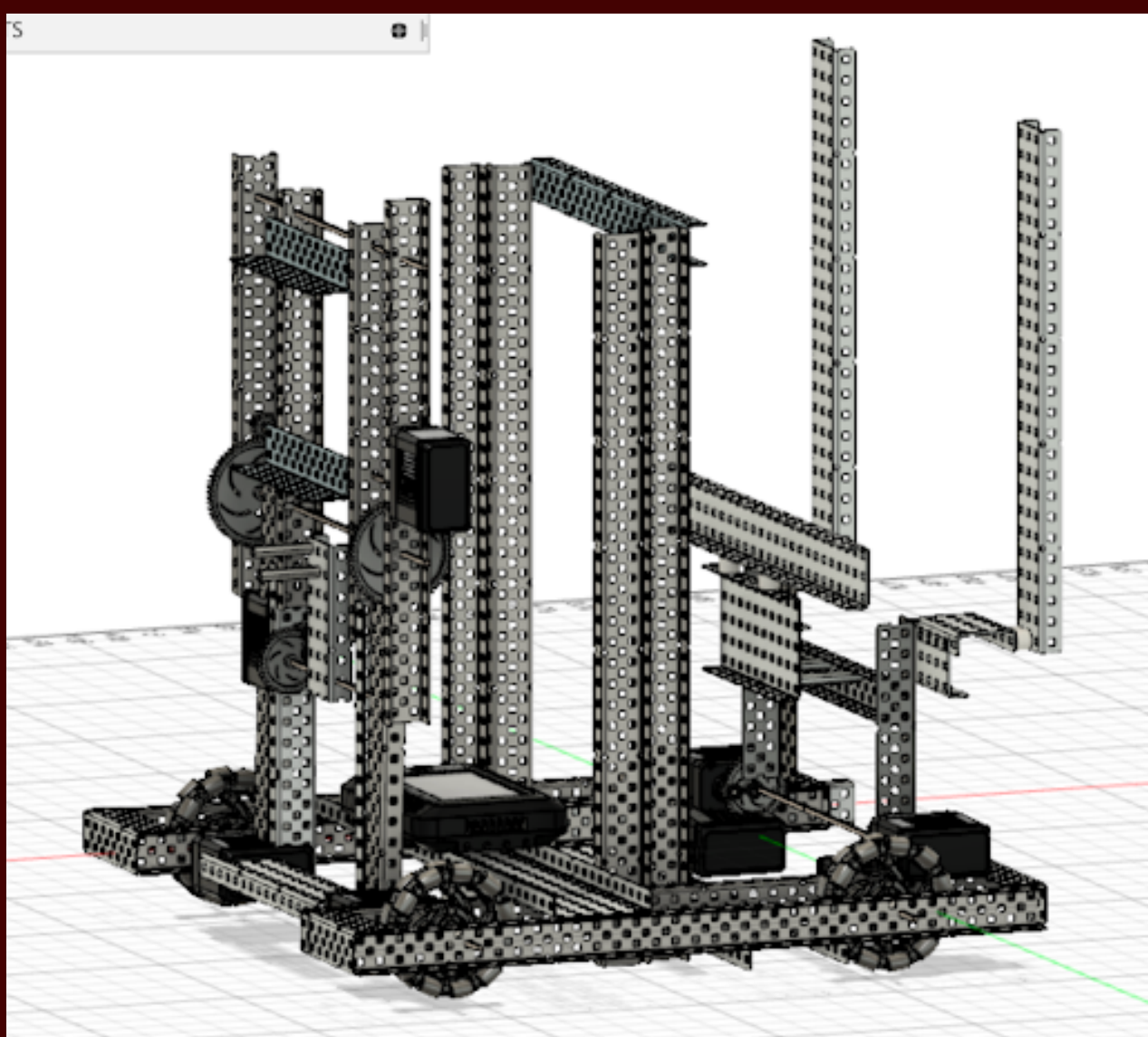
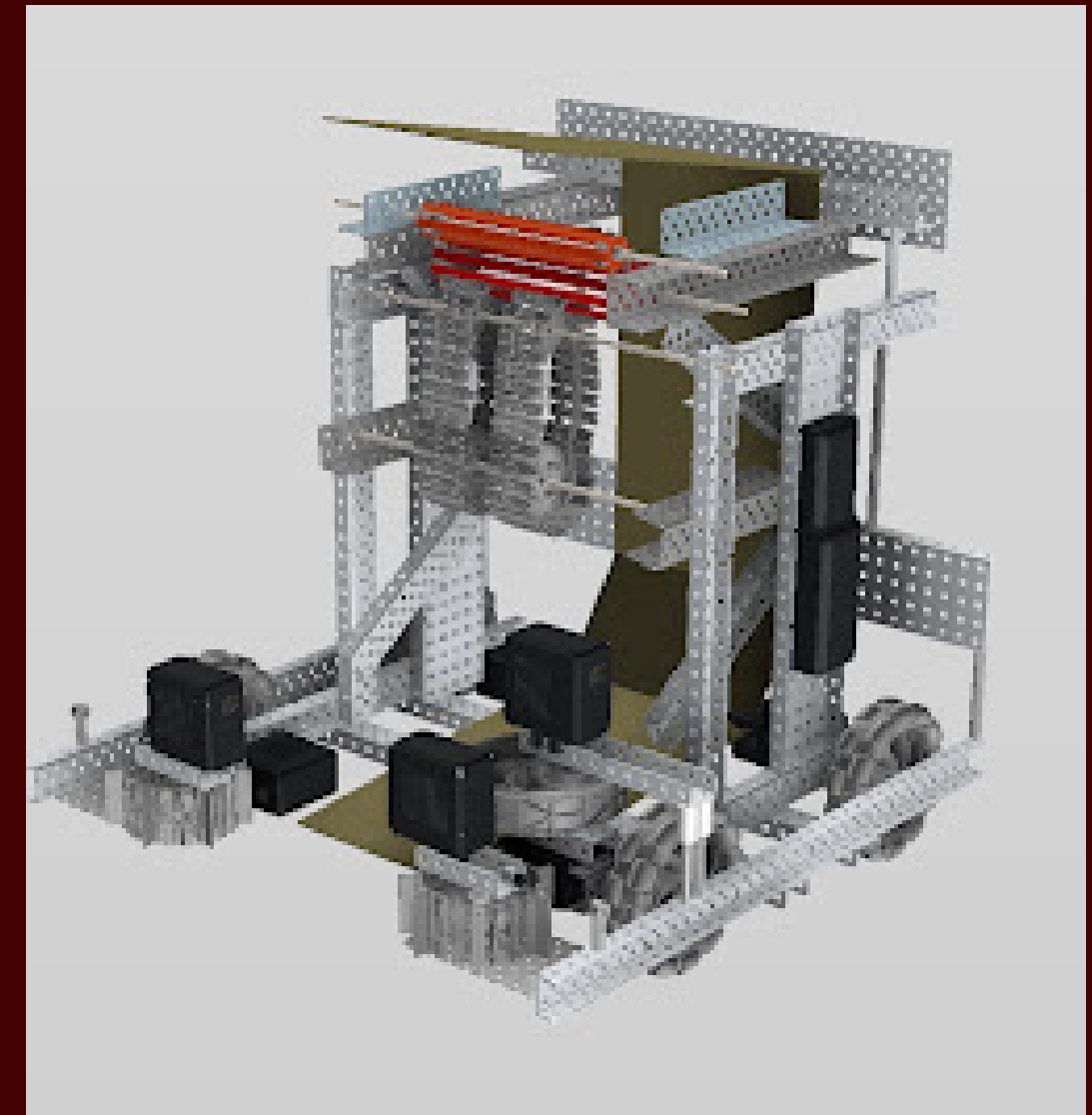
Our Apprenticeship Program

It is evident that we need to encourage females to pursue STEM careers and to fight against the obstacles that hold us back. Today, our VEX Robotics team, 2772J consists of 6 passionate and hardworking young women striving to expand their skills and precocious talents. Additionally, we run an apprenticeship program for young girls to get an experience navigating the field of robotics. Our goal with our apprentices has been to create a safe environment for girls and allow them to explore their interest in robotics, gain experience in the field and learn without any requirements, both technically and financially. Apprentices have the option to attend any of our team meetings, 5 days a week, and are able to help us out with our robot, learn through experience and build their own robot, and ask questions. After understanding their expectations and hopes from the program, we personalize the program and make it geared towards them. Our apprenticeship program gives kids an introduction to VEX robotics and teaches them how to both program and build, by teaching them different systems, such as lift and gearing systems, that are used on robots. We have been holding Intro to Vex Robotics classes over zoom as well for our apprentices. We have over 10 apprentices worldwide in places such as Canada, India, South Africa, and America. The pictures below show some of our apprentices building their robots. All of our apprentices were able to create fully functioning robots for the 2020-2021 VEX Robotics season and are currently working on their robots for this year. In addition to this, we have a team website where we have uploaded resources for not only our apprentices, but anyone interested in robotics: <https://thinkfastrobotics.weebly.com/resources.html>



How Our Team Works

Our team creates a positive environment for our members to compete, especially by making communication clear to effectively resolve issues within our team and reduce misunderstanding between our members. It sounds like an oxymoronic goal, but in an educational environment, there is a huge difference between a competitive and a toxic environment. Toxic environments inject negativity and discouragement into participants, which we aim to avoid. Instead, we want to create a positive, competitive environment where each member can grow their skills without implying that each member does not have the potential to become greater. We want to build each other up through competition, not tear each other down. In short, we hope to positively build and compete together, not invalidate, and discourage others.



Our team is very flexible in terms of roles. While we each have our own assigned roles, everyone does a little bit of everything in order to get the experience of every aspect of robotics. For example, if one of our builders is missing one day, someone else, such as one of our programmers will fill in as build for the day and vice versa. Since we meet 5 days a week, for three hours everyday, everyone is able to try out at least one different role every week. All of our programmers have helped build and design our robots and all of our builders have helped program and design. This method has helped our team become efficient when getting ready for a tournament and especially when communicating. Through our knowledge and understanding of all of the roles in this team, we are able to better talk about problems we are having and brainstorm, suggest, and build off of other's ideas in discussions. In turn, our ideas and perspectives are more diversified and we are able to create a better robot. We also switch roles every year so everyone can get new experiences. For example, Jia mainly created the CADs last year after discussing the bot design with the rest of the team and Nikhi mainly created the CADs this year. If Nikhi needs help however, the entire team is able to guide Nikhi in the right direction, enabling all of us to learn more.

Our Role Model



Grace Hopper was the first woman to become a U.S Navy Admiral and one of the first women to receive a doctorate from Yale in mathematics. She and her team created the world's first compiler. She believed that women in STEM could overcome any obstacle with hard work. She inspires a more inclusive team because she proves that women can do just as well as men in the STEM field and that women deserve to be equals to men.

Just like Hopper, our team has worked hard and made great strides towards gender equality in the STEM field, but specifically in robotics, through both our apprenticeship program, and our dedicated team members.



This was the beginning of our first season as a team; We persevered towards our goals, just like Hopper, and were able to fundraise to get enough money to start an all girls and non-binary team with an apprenticeship program to encourage girls to explore their interests in robotics.