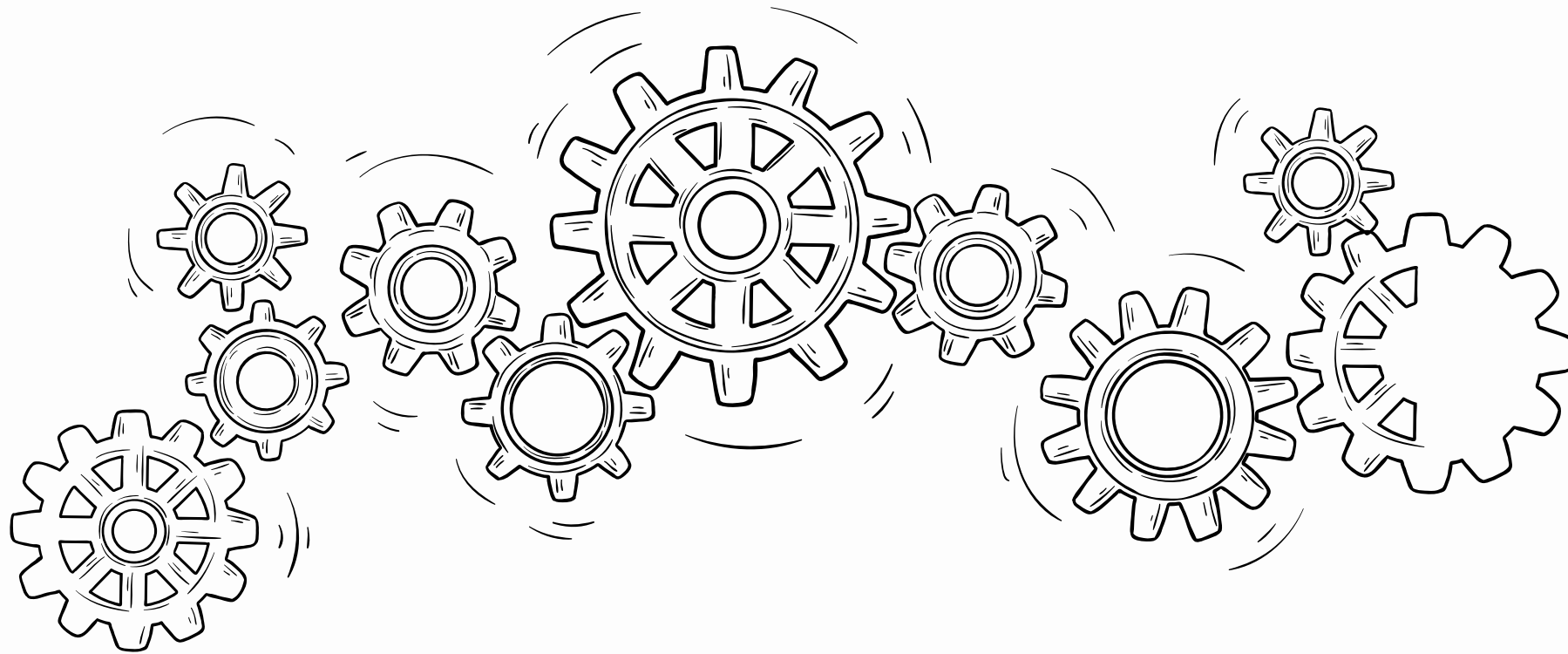


# *Spin Up Girl Powered Challenge*

Team 3759X

Virtuoso



Location: Irvine, California, USA

Adrianne Chang  
Audrey Kim  
Martin Pan  
Pranav Patlola

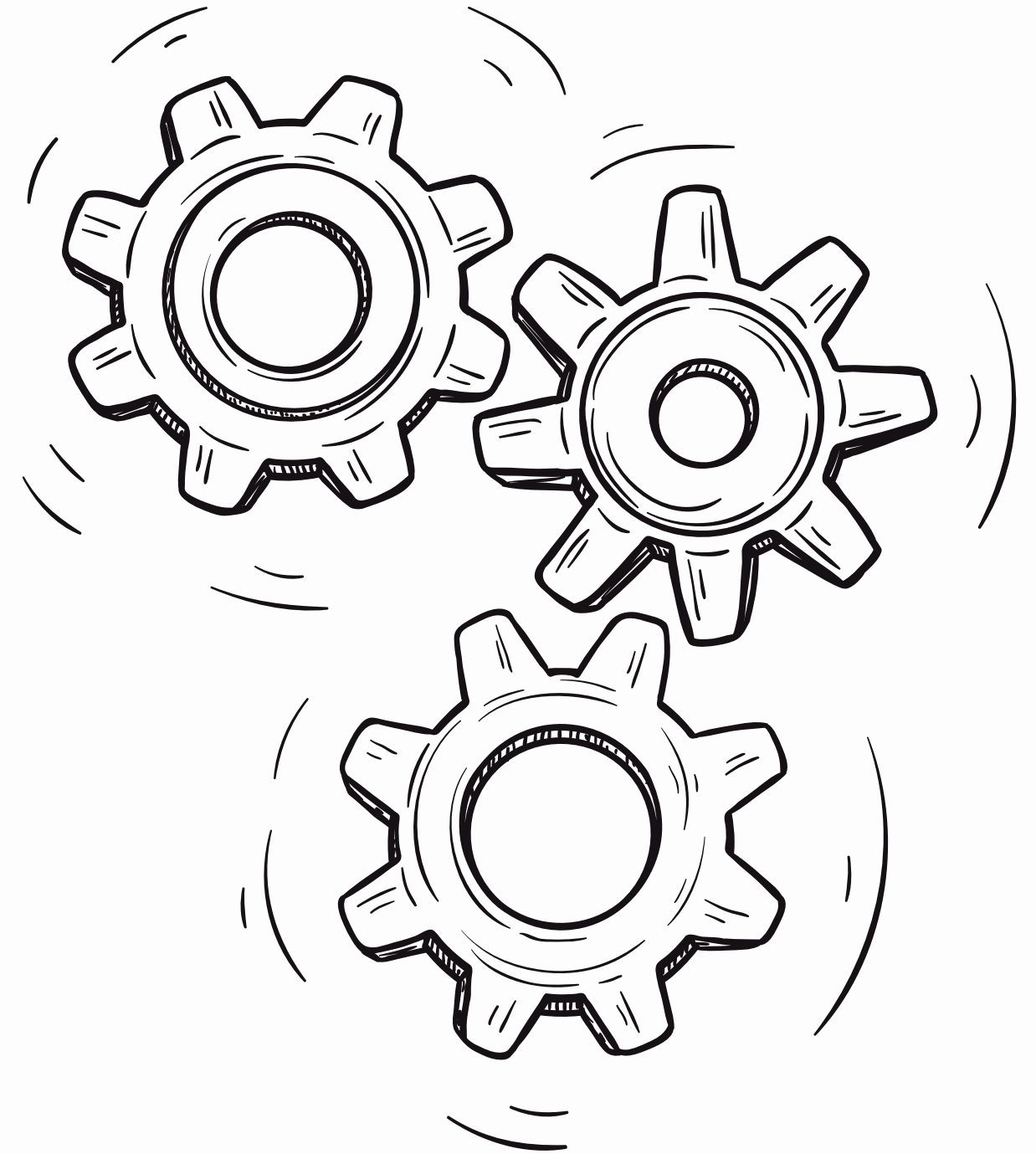
# *Where We Started*

All of our team members began our VEX robotics journey at Jeffrey Trail Middle School.

Our coach/mentor at JTMS, Mr. Nguyen, has been a role model for our team as he always encouraged us to strive for higher goals. He was able to see the potential in all of us and help us not only develop the skills to be successful in VEX, but the confidence to be a strong contributor to any team.

Throughout our seventh grade year, we worked to understand the engineering design process before implementing our knowledge during our eighth grade year, where we were able to compete on a VEX VRC team.

This foundation has allowed us to develop strong engineering skills, as well as strong teamwork and problem solving skills that allows us to succeed as part of a team.





# *How Virtuoso Started*

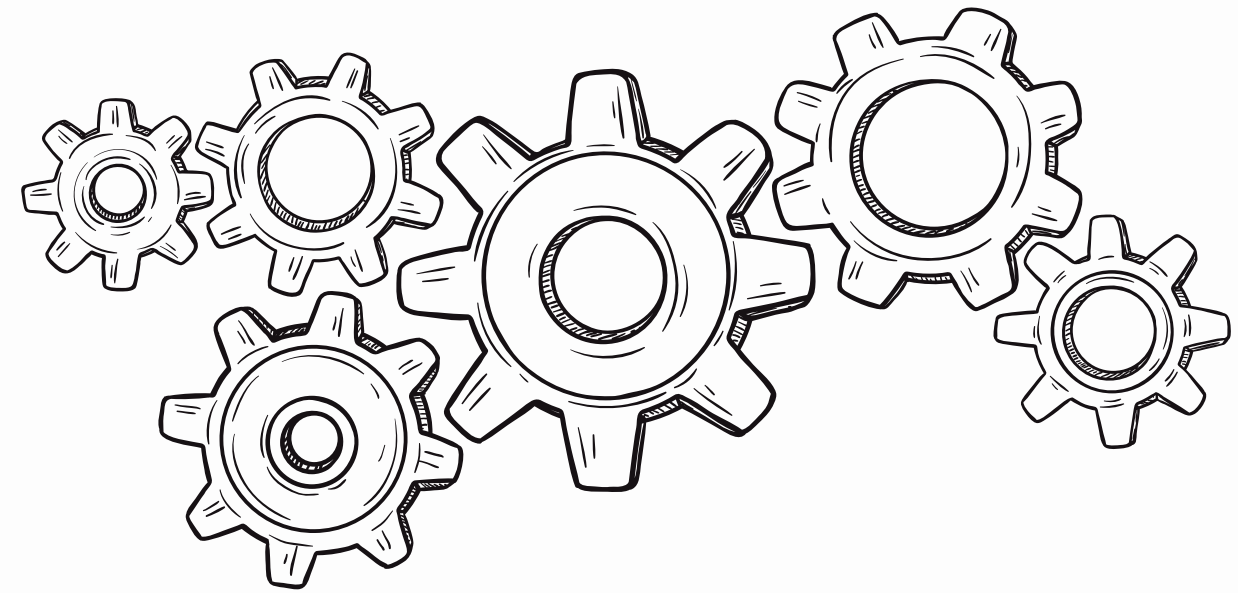
We are a VEX VRC High School team from California - Region 4.

The team initially began with 2 members (Martin and Pranav) during the Change Up 2020-2021 season. At the end of the Tipping Point season, the team expanded by adding another 2 members (Adrianne and Audrey).

Our team has had a successful start to the Spin Up season and has attended several local competitions as well as the Mall of America Signature Event.

Since we have a four person team, we all have roles to efficiently utilize our time. Martin is the lead builder and driver, Pranav is the programmer and builder, and Adrianne and Audrey are both builders and notebookers.

# *What does it mean to be girl powered?*



We define a girl-powered team as one that isn't necessarily a girl's only team, but a team where girls play a significant role. We aim to create a collaborative and cohesive team environment to overcome the gender barrier, where girls will no longer be overshadowed and their ability to contribute a wide range of skills will be recognized.

## **A 50/50 Team**

As a team of 2 boys and 2 girls, we are able to utilize our diverse skillsets and compliment each other's strengths and weaknesses. Some of us are stronger at certain aspects of robotics such as programming, driving, or notebooking, and we also vary in strengths of our personalities. Being on a VEX team means that you need to not only collaborate with your own teammates, but with students on other teams as well.

Our team is not only equal in demographic, but also equal in our commitment and contribution to robotics. We all work on building the robot together and the three non-drivers rotate on the drive team.

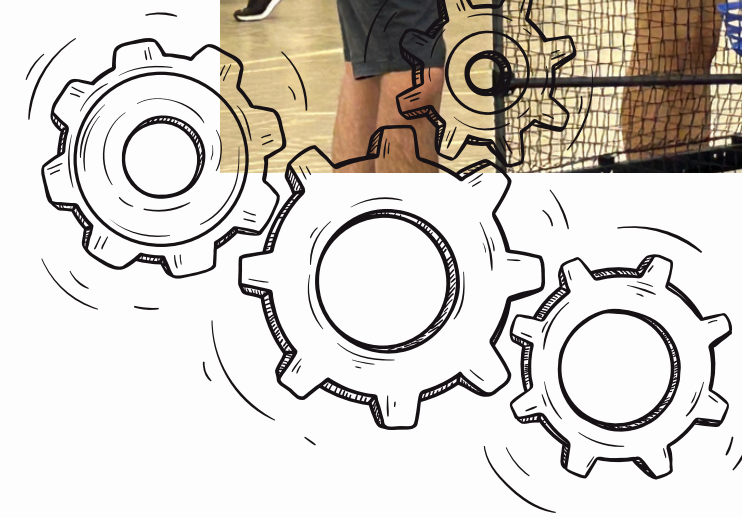
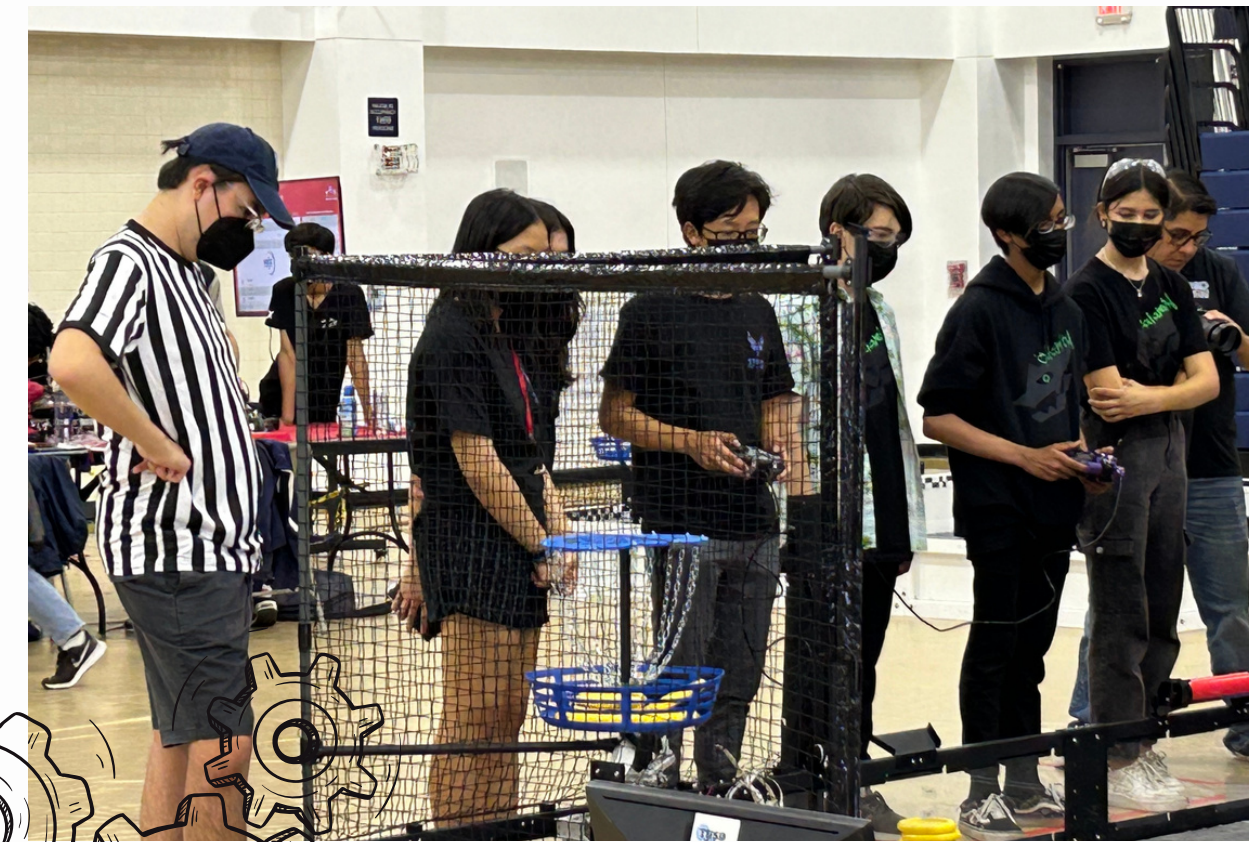
## **The Future of STEM**

It is no secret that STEM fields tend to be male-dominated, and VEX robotics is no exception. On top of exhibiting our definition of a girl-powered team, we pass on our knowledge by mentoring both female and male members of Jeffrey Trail MS's VEX team. Our team members are also involved in their school's FIRST teams (Portola HS's FRC team and Fairmont Prep's FTC team), allowing us to help students of all genders begin their robotics journey and own their role on the team.

# *How do we "own" our role on the team?*

All our team members are strong contributors and have the experience to fill any role on a VEX team. Three out of four of our team members held the role of driver on their past teams, and all of our team members have enough programming knowledge to fine tune the autonomous programs in the absence of our programmer. Both girls on our team have prior team captain experience and also hold leadership roles in activities outside robotics. However, all of our members specialize in the roles correlating to our strengths, allowing us to flourish as individuals while advancing the success of our team as a whole. In the process, we all enhance our knowledge in different skillsets such as designing, building, and programming, while simultaneously gaining communication, problem solving, and critical thinking skills together.

A girl-powered team is one that cultivates an environment where girls are able to hold a prominent role on the team. All of our team members are passionate and eager to learn, forming well-rounded individuals that have the knowledge and confidence to "own" their role on any team, in and out of robotics.

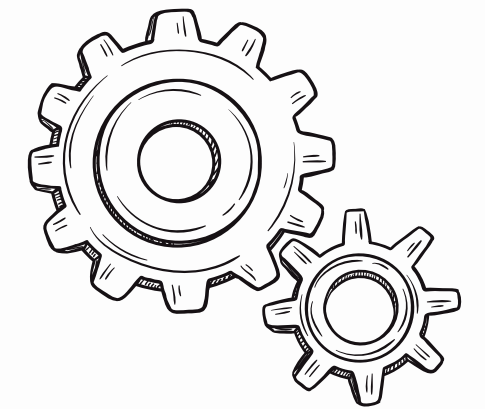
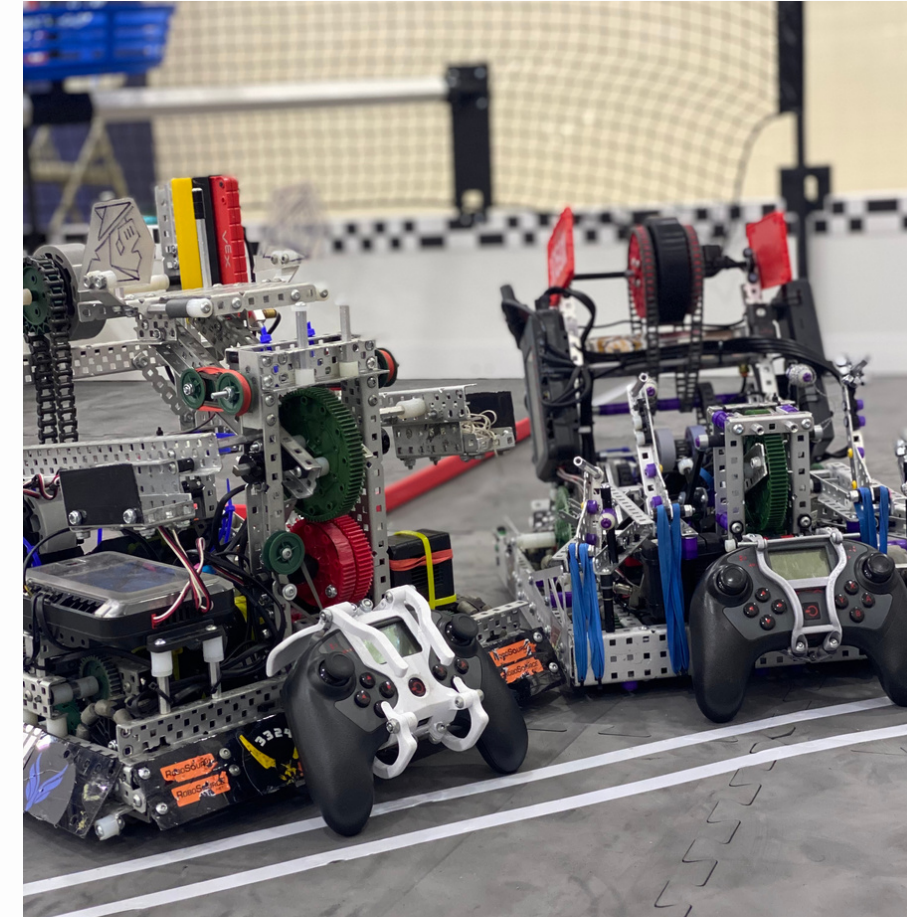


# *Robot Design*

With four people on our team, we are able to have four pairs of eyes and hands. This allows us to pay attention to small details as we have several people to spot problems and several builders, meaning we don't have to sacrifice build quality due to a lack of time.

As we move through the season, we continue to improve our robot and even do complete rebuilds. In January of 2023, we have completed three iterations of our Spin Up robot. Each iteration is built to target the flaws of the previous design while keeping its strengths.

Whenever we sit down to brainstorm and prototype as a team, we are able to all bring ideas to the table and bounce ideas off of each other. This allows us to formulate an innovative design that non of us could have created alone.



# *Our Season and Our Future*

At our first competition of the Spin Up season, the Mall of America Signature Event, we were not able to perform as well as we hoped. However, our team came out stronger as we were able to forge a greater team bond and identify areas of improvement for our robot. We communicated our thoughts on how the tournament went and each member on the team provided valuable input on deciding on a brand new robot design.

Afterwards, our Spin Up season has gone exceptionally well and we've received several awards such as the excellence award, tournament champions, robot skills champion, the design award, the build award, and the create award.

As we continue our journey in VEX robotics, we hope to inspire and encourage more girls to own their role in robotics.

