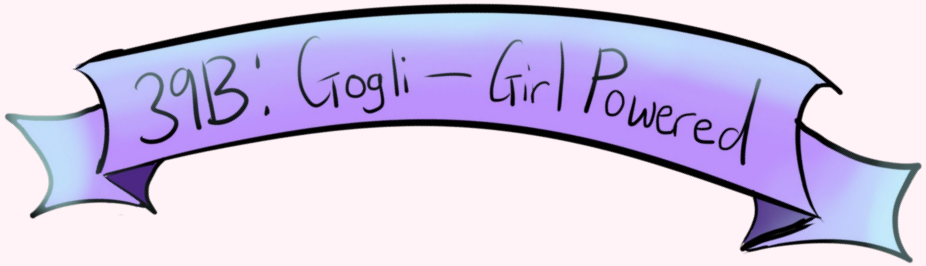
OUR JOURNEY OF DIVERSITY

Team 39B Girl Powered Essay

Members: Grace Zhang, Sophia Yang, Angelina Kou, Angela Zuo, Charles Huang, Larrance Xing, Kevin Yang

Cranbrook Robotics

Bloomfield Hills, MI



We formed Team 39B Gogli of Cranbrook Robotics last year during the 2020-2021 Change Up season, consisting of members Grace, Sophia, Angela, Charles, Larrance, and Kevin – 3 girls and 3 boys. In the 2021-2022 Tipping Point season, we added one new member, freshman Angelina, to our team.

Everyone brings a different perspectives and way of thinking to the team that allows for a variety of discussion and many unique ideas. For example, Sophia and Angela are more team and people-oriented, creating teamwork strategies during a match and organizing the best ways and times for our own team to meet, while Grace works more on the technical parts of the robot, such as doing the programming.

WHO ARE WE?

GIRL POWERED MEMBERS

Grace Zhang

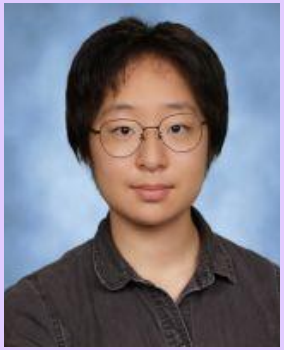
Main programmer, notebook artist

Grace is a sophomore who has always had a lifelong passion for robotics. She has done VEX robotics for three years and VEX IQ for two years prior, as well as other robotics competitions such as Robofest. She codes the team's autonomous and driver programs.

Sophia Yang

Team manager, notebook writer

Sophia is a junior who has done VEX for three years. She organizes the team's meetings and speaks to judges on behalf of the team. In addition, she is the main engineering notebook writer for the team.



Angelina Kou

Scout, backup driver

Angelina is a freshman who joined the team this year. Despite having little experience in robotics, she is enthusiastic and willing to learn from her other team members. She brings her vibrant energy to all of the team's meetings.

Angela Zuo

Communication manager, scout

Angela is a junior who is in her second year doing VEX robotics. She aids Sophia in managing the team and facilitates much of 39B's communication outside of in-person labs.

OTHER TEAM MEMBERS

Charles Huang

Team captain

Charles is a junior with four years of VEX robotics experience and is the captain of the team. He provides a mathematical and technical perspective to the team.

Kevin Yang

Backup programmer

Kevin is a sophomore who has done VEX for three years. He is the secondary programmer of the team and helps Grace with the autonomous code.

Larrance Xing

Driver

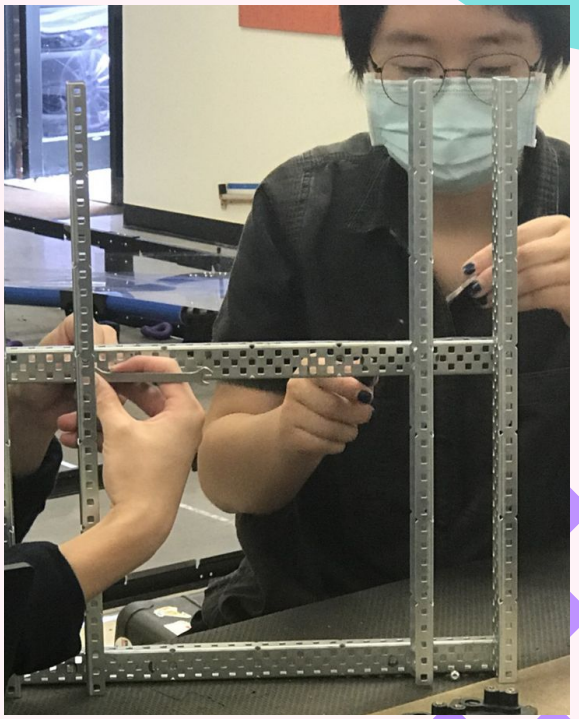
Larrance is a junior with four (?) years of VEX robotics experience. He is the main driver of the robot for both teamwork and skills matches.

What does “Girl Powered” Mean?

The phrase “Girl Powered” says much more than its succinct length. It goes beyond the simple act of including both girls and boys in some activity; rather, it is the call to become aware of the brilliant, infinite variety in people, and to explore them without barriers of gender. One day, we hope that being “Girl Powered” will be present everywhere in the world around us, and we will be considered equal to boys in all regards.

Bringing Girl Power into Robotics

Bringing Girl Power into robotics is a task that our team strives to achieve. In every aspect of robotics, we intend to create an equal and open environment - which means a lot of discussions, debates, compromises, and eventually trust - that allows every member to communicate their thoughts. Girls and boys play equally important roles, since knowledge and creativity, not gender, determine our path. These qualities, we believe, allow everyone to not only contribute the most they can, but enjoy robotics as well.



Sophia building the robot during the summer →

Inclusivity in the Robotics Lab

In our labs, we divide both our work time and tasks equally. In our initial design period, the designers, builders, and programmers equally rotate going to the week's lab days on Wednesdays, Thursdays, and Sundays. Then, as we move into fine-tuning our strategy and robot, we increasingly prioritize our driver going to the lab. Last year, during the pandemic and online VEX robotics, our members were scattered across the globe and could not meet. From this experience, we realized that balancing our time is crucial for true cooperation. With careful planning, we always have different sections of the team working together to discuss and carry out ideas.

Our Communication & Inclusion

Furthermore, on the social side of things, we pay attention to something that some have ignored: the way we speak. Language plays an irreplaceable role in communication, in which it broadcasts both information and intent. As the COVID pandemic requires masks, the loss of facial expressions makes paying attention to language even more crucial. We pay attention not only in professional robotics settings, but also in our daily communications. We use respectful and inclusive language in any setting, so that people around us feel safe and respected. Our society has a long way to go in terms of inclusivity and progress, and we want to contribute our part while doing what we love.

Finding Roles in our Team

Our members vary not only in gender, but also age - we range from freshmen in their 1st year of VEX robotics to veteran juniors. The differences in our experiences naturally lead to experimentation in role assignments, so we can optimize the team's performance by focusing on what we do best.

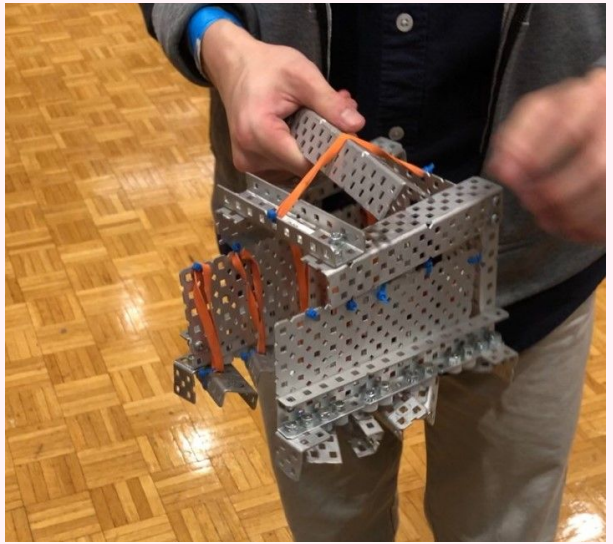
Finding Roles in our Team (Cont.)

For example, freshman Angelina joined our team this year to try out robotics for the first time. The rest of the team, with more experience, was eager to help her learn. She spent the first few weeks learning the rules of the VEX game and observing how we built and designed our robot. Gradually, she improved as a builder. More importantly, though, is that she truly became a part of our team. Her energy brings us together both in the lab and during competitions. When we are competing, Angelina goes around with Sophia, the team manager, as scouts to gather information about other teams and form alliances, while also presenting team 39B to the judges during interviews.

Angelina and Sophia scouting →

Our Diversity of Perspectives

Our team's diversity also allows us to include different perspectives and methods of thinking in our team interactions. From driving to physics computations to scouting, our team members complement each other with our unique points of views and mentalities. In our downtime, our creativity generates a lot of unexpected humor - even discarded design ideas can become a "musical instrument" in our hands, such as this box-turned-windchime.



Diversity of Perspectives (Cont.)

Our team's combination of different skills is most vital during team interviews. We start with an introduction by Sophia, our team manager to set up the structure. Since some of us shine the most when presenting the technical details of the robot, setting up a good frame for them is crucial for our success. This was only possible because we think in complementing unique ways. Our interviews have improved significantly since we allowed our members to focus on explaining the core of their strengths.

Our STEM Role Model

Someone that has inspired us with her story in STEM is Wendy Carlos, a pioneer in electronic music instruments and a famous musician who studied audio engineering. Her creativity of bringing music together with technology and her experiences with gender is a rich story for us. Carlos' dedication to bringing these seemingly distant fields together hints at us to look for ideas in unorthodox ways, and her experience with identity reminds us to love all the immensely varied human experiences in this world.

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Thanks!

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Best,
Sophia and Grace