



Spinning Up the Playing Field

Team 6374B - San Jose, CA

The Team/Name of Entrants:

**Zoya Brahimzadeh(10), Adelle
Kang(09), Kelley Zhang(10), Anvit
Mishra(10), Kevin Toren(10), Gautam
Khajuria(10), Minchan Shin(10),
Andrew Goldberg(12), Sungmin
Lee(10)**

Girl Powered

Being “Girl Powered” means ensuring that the girls in our team have equal opportunities to men and that they feel like they belong in the STEM field, like they can be engineers. To us, it’s feeling like we, the girls, have a key role in our team and that we’re empowered to participate and contribute to the STEM field.

In our team, girls have equal opportunities to men and we’ve created a supportive culture where everyone feels like they are an engineer and a vital, growing

part of our team. Our team focuses on more than just building robots to win, but building robots to impact. Because of all



this, we build a strong team bond, and our impacts spread both internally and externally. Specifically, internally, we gain a female perspective and leave the members of our team with a better understanding and awareness of the gender gap in STEM. We’ve created an open team culture where everyone is able to feel like they have a voice in decisions and where there are girls and inspiring progress.

Roles



Zoya Brahimi(10)

Lead Programmer;Documenter;Club Secretary

She codes the **auton** for our team and uses **advanced physics** to create a succinct control and precise auton. She also helps with the documentation team.

Adelle Khang(09)

Programmer and Builder

She focuses on the coding the **vision sensor** and provides help with any code that needs to be finished. She also manages our code **scrum board**. She also built the flywheel and manages the integration with the code.



Kelley Zhang(10),

Lead Documentation and Builder

Focusing on the documentation side of our team such as coming up with creative ways to **brainstorm**. She also builds the intake of the bot and creates **CAD models** with Minchan.

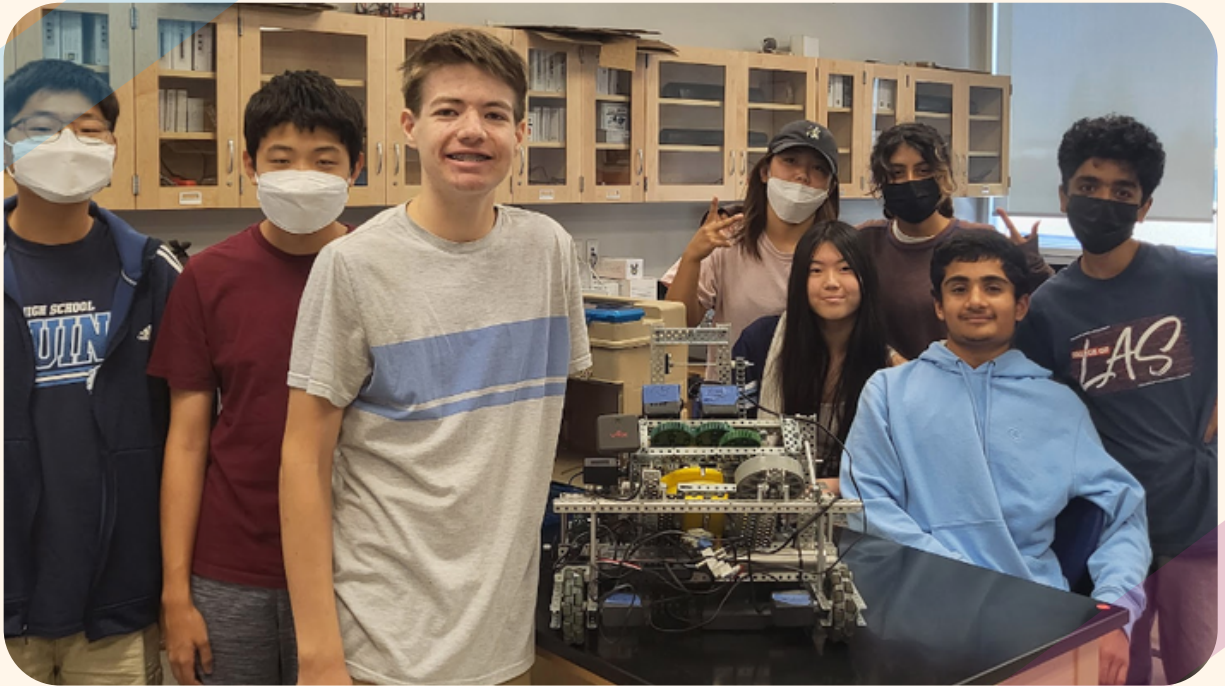


The Female Perspective



“Usually when in a STEM project, I feel super intimidated because of the number of men around me, but our team has managed to make me feel accommodated and valued. We all always encourage each other and give praise, it increases team morale and just makes me feel appreciated and valued for my contributions”
-Zoya Brahimzadeh

The Team on The Field



Multiple of our team leaders are girls and that helps with our strives to be “Girl Powered” as it lets girls have a leading voice in a field where we’re usually silenced. Our team’s approach is to have an open, honest space, where people feel like they belong and can succeed no matter how they identify. Open communication and positive team attitudes make this possible as they just help us feel more connected and valued.

Inclusive Environment For Diversity



We take conscious steps to have an **inclusive environment** by giving everyone a voice, maintaining open, **honest** conversations, providing **equitable opportunities** to participate, and holding diverse representation in our team outreach.

A big part of robotics is **teamwork** and within that includes lots of collaboration and communication to produce our final output: a spinning bot. Within brainstorming and debugging sessions, we ensure that everyone has the opportunity to speak about the matter at hand and that we're all on the same page. This **attracts a diverse group of people** to our team because everyone feels valued and has their ideas treated with respect, no matter who they are. This empowerment of team members is especially important for historically discouraged groups in STEM, such as girls, where the **extra encouragement** is especially beneficial in encouraging more new members to join.

Robotics is all of our passions and our main goal is to create a space where we can all feel comfortable sharing that passion! In general, keeping an upbeat, honest tone to our conversations leads to greater inclusivity since it's easier for people to get involved with our team endeavors. We further cultivate an open, **inclusive team culture** through team activities and bi-weekly progress checks where we're able to evaluate how we're doing and make changes if needed. Changes include switching **team responsibilities** or making changes to our approach to a task. For example, for about a month we weren't using a scrum board within the code team and at one of the bi-weekly progress checks, we decided it would be more sufficient to use one to ensure that work was being dispersed equally. Additionally, ensuring that a **diverse group of individuals hold leadership** within our team and represent our club **attracts more diversity**. There's "**safety in numbers**" and it demonstrates to people that they belong there; It strengthens the idea that **anyone** can be involved in robotics!

Trying Various Roles



Our team members try out **different roles** such as documentation, building, coding, and other components needed in our team! We apply the skills we develop by trying different roles to other, different applications such as the debugging process in programming to debug elements of our robot.

This **flexibility** in roles also **improves team communication** since we're able to see a problem from the perspective of other people. This allows us to **empathize** and **collaborate** better since we all have a basic understanding of each other's roles and how to be helpful. This improves our **cross-sector communication** as we understand how to communicate information to each other better. For example, a current builder who's been on the code team before is able to give more specific requests for what they want to be changed and has an idea of what would be feasible in the time allotted to the coders.

Our ability to switch roles also gives everyone an opportunity to be an educator and expert. This empowers everyone on our team as they're all able to be leaders and share knowledge, despite historic discouragements. This once again helps us be more inclusive as there's **less of a hierarchical structure** and more of a pooling of knowledge within our team.

Additionally, this system helps us **bridge gaps** in our team since there's more common ground between members working on different tasks. We see each other for the talent and work we put in, not the gender identities we hold. There's more empathy for each other since we've all been in each other's shoes, literally. Lastly, our systems ensure that **everyone** has **equitable chances** to accomplish things in robotics, no matter who they are.

Diversity of Perspective Impact



Diversity of perspectives leads us to have more opinions and allows us to have team discussions where we discuss things from more angles. It allows us to **work together as a team** better since not everyone has the same set of experiences and brings a **fresh perspective** to the table.

We're all extremely close, we're more than just a team, we're a **family**! That close bond we all have helps **increase inclusivity** and puts us past mistreatment based on gender identity or race. Since being **girl-powered** means that we're aware of and able to speak up about **inequalities**, starting with gender inequality, we create an open, honest culture where we're able to share diverging ideas more frequently and with more ease. Talking about inequalities makes everyone more aware of it and is a catalyst for change, encouraging our team members to notice when there's inequality and strive to change it. This helps us succeed and **improves our team chemistry**!

Since everyone contributes something to our **overall team success**, hearing their perspectives and taking action to ensure that they have equal weight in our final output leads to greater success. Having these **diverse perspectives** and **open, honest culture** lets all of us have a better experience in robotics, learn more, brainstorm more, and open more discussions about something we're doing that then could lead to an improved design.

Additionally, having **high-spirited** team energy and **good chemistry** allows us to all feel happier on the team and feel more **motivated** to perform well! We all encourage each other and create an environment where we're excited to do what we do and excited to see what our team members do. This is especially apparent in competitions, where we scream encouragement constantly and keep everyone's **spirits high**.



STEM ROLE MODEL



Evelyn Wang is one of our team's STEM role models. She's constantly striving to reach higher levels of success in a male dominated field. She is the head of mechanical engineering at MIT, a field that is only 6.6% female, as of 2019. She has also done lots of influential research in chemical engineering and energy, constantly innovating more. She inspires the girls in our team to rise higher,

despite our small numbers. Her ability to accomplish so much and hold high leadership in a historically male-dominated field inspires us to have similar levels of accomplishment for the girls on our team. She shows us that it's possible to make an impact, no matter who you are, and we want to convey that message through our robotics team and ensure that we can all be successful.