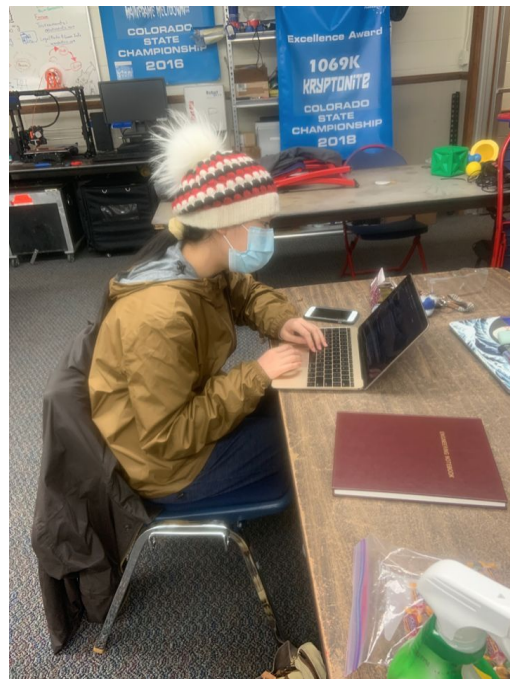


University of California, Berkely, 1876. Elizabeth Bragg would become the first woman to ever receive a degree in civil engineering. This makes us wonder, why did it take so long to see a rise in female engineers in adolescents? Why do schools across the United States need to make designated clubs and organizations for girls to get involved in engineering when women have been engineering since the late 1800's? One main reason for women being underrepresented in engineering fields is something called implicit biases, which are essentially the subconscious beliefs and stereotypes that impact a person's actions. "Girl powered" to us means thinking outside of these societal beliefs and being a part of activities that we are interested in, no matter what others think.

As young women, becoming involved with engineering, especially at a young age, can be incredibly challenging. In a field dominated by men, it is a formidable task to find a secure place and break through the intractable glass ceiling. To us, the girl powered initiative is a representation of the feminist movement, celebrating women for their intelligence and tenacity while always having one another's backs. The fortitude that comes from the backing of a community for underrepresented persons in STEM will help change the world and bring equality to engineering and STEM fields across the board. In



1069B, we strive to be different from other teams. This is reflected in the approach we take to

solving problems, our endorsing of diversity in engineering, and our challenging of traditional stereotypes.

Our team combines a plethora of wildly different personalities that bring many varying



opinions and thought processes to the table. The contrasts in our team help feed innovation and we pride ourselves on our original designs and nontraditional solutions to problems that we face. Even the distinctness of our personalities serves an important role in our engineering.

Having members of the team that are able to take a step away from the analytical side of things and look at what would benefit the group the most while still maintaining

the detailed and precise look at the robot that pushes the design to its maximum capacity for greatness is what distinguishes 1069B from all of the other VEX robotics teams across the country.

To encourage this dynamic and diversity that makes our team so special, we always work to reach out to peers that think outside of the box and remove all bias from our member selection process. We also maintain an extremely close knit, family dynamic through frequent out of meeting bonding activities, a group chat full of ridiculous memes, and the development of a safe space in which we feel free to share anything that's going on within our lives. Even with Covid and having to adapt to new circumstances, we still manage to have fun outside of robotics. An example of this was when we played Cards Against Humanity over a Google Meet using an online platform for the game. This dynamic is critical to our success and diversification as a team

because it keeps our differences from becoming problematic and allows us to focus on each other's strengths rather than just the points in which we diverge.

It can be incredibly difficult as women to find an engineering group where you can really feel as though you are completely accepted and recognized for your abilities. From the minute we joined, we have been encouraged to try a wide variety of things in the engineering process, from CAD to programming to building the



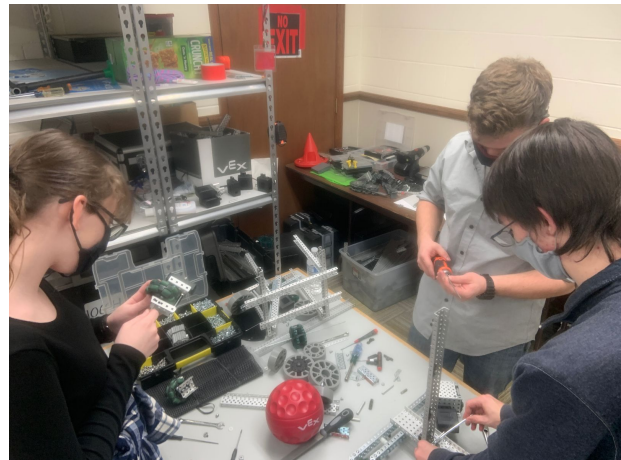
physical robot, and to offer our opinions on the design of the robot. In 1069B, we challenged the stereotypical roles of women by stepping up and having our opinions be heard while taking an active role in the creation of our robot. We feel as though the diversity in our team as well as our team's focus on making sure every idea is heard is reflected in our robot. We believe that because we each get to have an active, amorphous role in the team, free from the implicit biases that plague much of the field, our robot is more successful.

Being "Girl powered" is reflected in our team's approach to robotics from the way we attack problems and work through them to the overall dynamic. Since the guys on our team have been involved in robotics for a very long time, their view on issues is typically more complicated than ours. Having members of the team that are able to take a step away from the analytical side of things and look at what would benefit the group the most is extremely helpful, and that's

where we come in. Also, when the rest of the team gets super stressed out about time constraints and issues with the robot, we tend to swoop in and take their minds off of everything for a little bit so they can recollect their thoughts. One of the most memorable times that this happened was captured in the image that is included to the left, where Corey and Bella were programming. The picture alone is pretty self-explanatory, but Corey was tired and getting stuck up on some issues with the code, and Bella continued to be cheerful. Things like this raise the morale of the team, which is necessary when life gets stressful.

Our team took the initiative to create a more diverse environment by reaching out to new people when deciding on who the members of the team should be. Having a close-knit, family-like team is crucial to the success of any team in general, but more importantly, a robotics team.

Overall, us women add a lot of diversity to the team and we help to create a more well-rounded group. We have experienced every aspect of robotics as of now, and this opened us up to new opportunities that we wouldn't have had prior. This is one of the huge things that I love about the team. Everyone contributes to everything: it's never just one person doing all of the work in one department. Being girl powered not only means having girls on a team, but incorporating new ways of thinking into the design and execution of the robot.



Hill, Cathrine, Corbett, Christianne, and Andresse St. Rose. "Why So Few: Women in Science, Math, Technology, and Engineering." *AAUW*, Feb, 2010,  
<https://www.aauw.org/resources/research/the-stem-gap/>