

Building Bots, Building Skills

BY ANDREW GABRIEL NIEBRES

Have you ever wondered how building a robot could shape a student's future?

As a freshman in high school, I've seen firsthand how robotics transforms lives. My journey started in middle school when I joined the robotics team. At first, I didn't know what to expect. I only knew that my friend really wanted me to join his team. I believe that at the beginning, the way the teacher allowed us to just experiment with our design drew me in. Having a clear goal, but a limited amount of direction allowed my team to grow closer together in a short period of time.

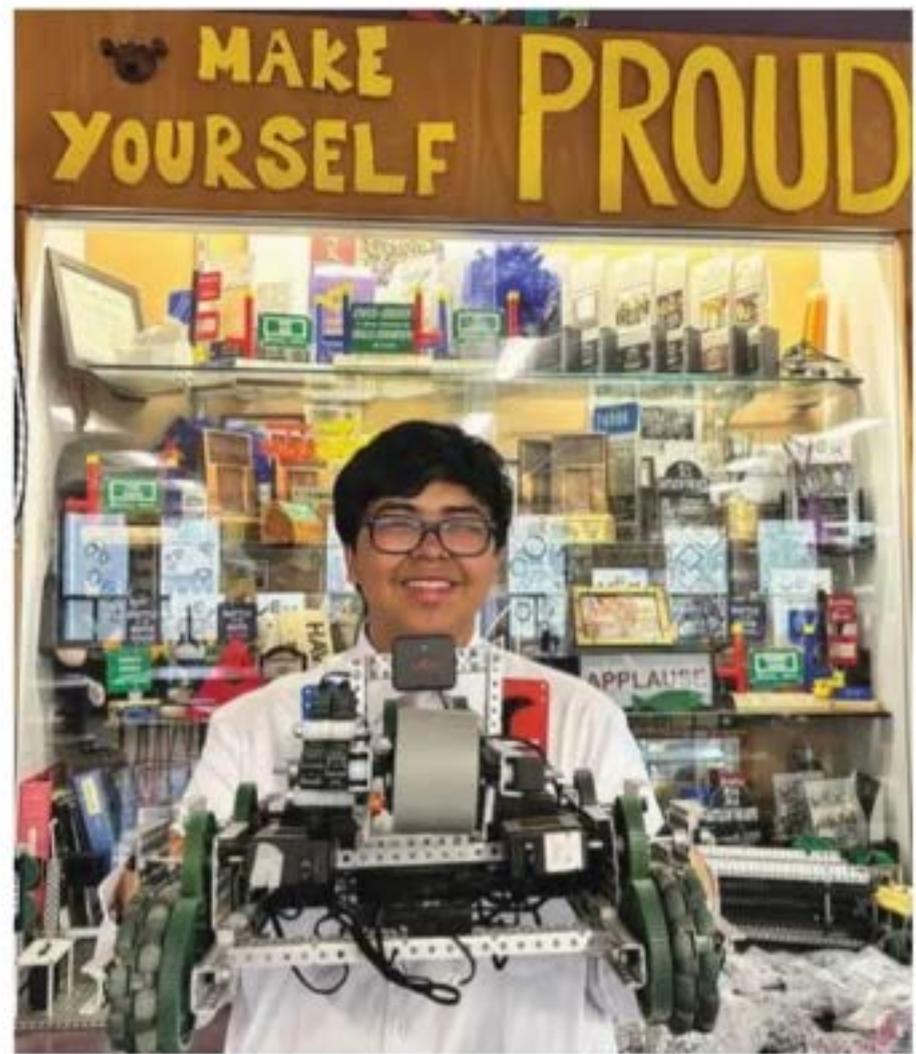
Since then, I've competed in robotics events with my teammates around the Chicagoland area, cheered on by my family. Each season brought new technical challenges that were uniquely difficult to conquer. We dedicated all of our lunch periods to working on our robot, making sure it was the best of the best. In some ways, it was like a sport. Improvements came mostly out of losing rather than winning, and we analyzed our mistakes, took accountability, and fixed them to the best of our ability.

Robotics helped me develop team skills, adapt under pressure, and connect what I learned in school to the real world. It beautifully mixes math, logic, engineering, and coding in a hands-on way. The competitive aspect of it taught us to have grit and push through the hours of trial-and-error necessary to make an effective bot, and when it finally works, it is one of the best feelings in the world.

More than anything, robotics taught me how to work in a high-functioning team where everyone contributed. Every teammate brought a strong foundation and a unique skill that we all relied on to be better. Some of us were more technical, others were good at designing, and some were just good at talking to people and filling in the cracks. Even when we all had our own different jobs, we learned everything from each other, and this learning sphere bred brotherhood and community. It was to the point that we all agreed to dress up in suits and wear fake mustaches to look as silly as possible at all of our competitions. Our community made even the simplest things fun, but we stayed productive in nature. Each of us gave different perspectives, and even when those perspectives were a joke, each one refined the final product of our full strategy.

Sadly, robots are limited by the materials they are made of, especially on a competitive level. I was fortunate enough to have a great coach who provided all the tools necessary to make our robot the best it could be, but not everyone is as fortunate as me. I've seen so many people at our competitions who have the heart to be one of the greatest teams, but don't have the resources required for such a bot. Some schools don't have the funding to even facilitate time for competitive robotics, leading to teams simply not being well prepared for a full tournament.

Not everyone on our team plans to be an engineer, coder, or in the STEM field, but robotics provides skills that can connect to



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any career path. In a world full of technology, understanding the basics of scientific thinking and ingenuity will help no matter what you do. Robotics goes beyond just machines; it's about teamwork, purpose, and self-improvement, making robotics universal. It also teaches us to stay motivated because after hours of perfecting a simple design, when it finally works the feeling is unforgettable.

Funding for robotics is an investment in our future. Schools need to do their job of setting kids up for the future and allocate the funds that are needed to the right places. We all need to do our job as a community and support robotics programs. As I said before, robotics goes far beyond just building a bot or even what you can imagine from this article. This program will echo in all of our lives because it taught us all the aspects of being a productive member of society. We are taught to work as a team, to stay motivated, to improve ourselves, and to share a community built on lifting each other up. Without funding, there is none of that: no lessons learned, no camaraderie built, and no application of STEM principles to everyday life. It's time for the community and schools to step up and build kids' futures through robotics.