

Introduction

As the Adambots, we lead, we collaborate, we dream of a better future. We are learners, teachers, and future innovators. We inspire leaders and we aspire to be leaders. On our team, FRC isn't just a robotics competition; it's a cultural movement. We aim to excite and inspire students to become the ones who drive the future of STEM. We maintain an extremely high GPA average and excel in honors and AP classes. We are the Adambots: a group of inspiring students dedicated to building a global *FIRST* community.

Our FLL Jr./FLL Programs

As Adambots, we inspire the next generation of leaders and innovators. Our efforts within the FLL Jr./FLL progression impact the youth, exciting them about the STEM environment by helping them start teams, showing them how things work, and providing ready support at all times, all through the *FIRST* program.

Within elementary schools, we provide guidance and mentoring to several FLL Jr. and FLL teams, inspiring them to progress further towards later *FIRST* programs. Last year, we support funding 15 teams in our district, helping start 11 FLL Jr. teams and 4 FLL teams. This year, we expanded our impact to 14 FLL Jr. teams and 6 FLL teams which we provide full funding and mentor support to. Through our efforts we have assisted in bringing 160 elementary students into the *FIRST* program in our district.

For the past two years we hosted and assisted in running a mock FLL Jr./FLL event to allow teams to get an idea of how a real competition runs before they actually compete in one. This event encompasses the 15 FLL Jr./FLL teams which we support. With this practice event, students are slowly introduced into the competitive side of *FIRST*, rather than being thrown into a stressful competition all at once.

Outside of our district we worked with a FIM board member to mentor an FLL team of lower socioeconomic class at Will Rogers Elementary school in Pontiac, in order to help give them a better *FIRST* experience. We worked with this team weekly helping them with building and programming aspects as needed.

Our team members guide children to the fundamental concepts of STEM and expose them to the environment of a robotics team. Our guidance inspires them to be more involved in *FIRST*. We start teams, we mentor teams, and we run and host events. This ultimately sets them up to become future leaders, not only in *FIRST* programs, but also in life.

Our FTC Programs

Last year, we hosted and ran the first-ever FTC League Meet in Michigan! This was the pilot event for the Michigan Oakland County Competitive Robotics Association: the first meet of four in the OCCRA middle school program. The event allowed 18 teams, both rookie and veteran, to compete in a tight-knit community of middle school robotics teams. With the incredible growth of *FIRST* teams at all levels throughout Michigan, increasing the number of events is critical to ensure access to learning opportunities. By supporting the creation of FTC leagues, we're developing Michigan's infrastructure for supporting *FIRST* growth.

This year, we have further developed our impact in the FTC events by running and hosting a qualifier event. Once again, this allowed for a greater number of teams to compete in an event and increased learning opportunities. This event increased the number of possible participating teams from 18 to 34.

We started one of our feeder middle school's FTC team, Team 17181, this year, providing them with funding, mentorship, and access to our build space. Through this, we were able to get students involved in the *FIRST* program building them into future FRC students.

Our FRC Programs

To support our global FRC community, we form relationships with teams from all over the world. We collaborate with and assist existing *FIRST* teams as well as form new ones and introduce others to STEM. Additionally, our resources are available on our website for all teams to use.

We openly share knowledge by inviting nine other teams throughout Michigan and Mexico to our weekly video calls, some of these teams being from underprivileged communities. We collaborate with these teams to give one another engineering support throughout the *FIRST* season, discussing strategy, rules, design, and scouting.

In 2015, we started a rookie team at a sister high school, FRC Team 5436 the CyberCats, and we continued to mentor them for three years after that, allowing them to build alongside us. Over the years, our relationship with the team has evolved from simply mentorship to equal collaboration.

To aid in *FIRST* team sustainability, we proudly share our business planning experience with other teams. We post the AdamBots Business Plan on our website and answer questions throughout the year. This has led to helping over nine teams write their business plans in the past through emails and video calls. Last summer, we also assisted with a business planning

conference with Team 4384 where we gave advice on sustainability, strategic planning, and award submissions. Additionally, we wrote two new resources, "Writing a Business Plan" and "Entrepreneurship Award Guide," to enable more support. "Writing a Business Plan" has become a model for business planning throughout the FRC community, including being translated into Chinese which was shared with 100% of Chinese rookies last year.

Travel competitions in the Upper Peninsula have been something of a tradition for our team in the past. We use this as an opportunity to purposefully help other teams. In 2018, at the Escanaba district event, we provided programming, mechanical, electrical, Chairman's, and scouting assistance to over 55% of the participating teams and some continued to ask for ongoing support. One of the teams, Team 3617, asked us for further aid with Chairman's, business planning, programming, and design and build by making presentations that were presented at the Upper Peninsula Robotics Conference. In 2019, at the Kingsford district event, we continued our assistance helping a majority of the teams in the pits and even extended our support by having close to 50% of our attending team members volunteer on the field.

Part of our tradition is to have the dominant force of leadership be completely led by students. As part of the Adambots, our robot is primarily built, designed, and coded solely by students. With this kind of exposure, students are able to develop strong leadership, communication, and confidence in the field of STEM.

Furthermore, Kettering University invited us to present a business planning workshop for their *FIRST* Mentor Day event. We introduced concepts of documenting team functions and strategic planning for sustainability to new and veteran mentors alike.

Our Local and Global Community

In order to give back to the community that has given us so much, we volunteer at all levels of our local community. Every year, we raise money for the American Cancer Society by decorating luminaries and participating in Relay for Life. By now, we have raised over \$110,000 during our involvement with Relay for Life. We also volunteer to load trucks to deliver supplies to underprivileged schools for the Assistance League. We even started the Hunger Walk as an event to raise money for Rochester Neighborhood House. Just this past year, we, alongside Teams 5436 and 201, raised \$1,000+ for the Neighborhood House. Additionally, we raised \$300 for Girls of the Crescent, a nonprofit started by two of our students to support Muslim representation in literature. Each of these activities expands our impact beyond the *FIRST* community.

Three years ago, we started the Ambassador Program, where students traveling abroad spread STEM concepts. Their presentations include EV3 robot demonstrations and information on local *FIRST* STEM opportunities. Our Ambassadors brought *FIRST* values to England, Haiti, Mexico, Australia, and Japan. After our Japan presentation, we formed connections with the

Japanese FRC teams. We continue to provide ongoing mechanical and non-technical assistance. In 2018, we provided assistance to Team 6909 by connecting them to one of our sponsors for financial support, making their trip to the Championship in Detroit possible when it initially was not.

In Mexico, we have mentored Team 3478, the LamBots for several years. Eventually, our relationship with them has grown beyond mentorship and rather to collaboration. We are readily available for any support we can give at any location around the world whether that be through email and phone calls or face to face meetings.

Conclusion

As Adambots, we learn to collaborate, lead, and innovate. All of these skills are fostered by strengthening *FIRST* in our community and spreading its message to others. At an early age, children find inspiration in our demos at their science fairs and become excited about STEM through their FLL Jr. or FLL teams. As they age they build up their skills and knowledge through FTC and then climb their way to FRC. Eventually, these members become mentors for the teams that they were once part of since 64 veteran members all mentor a younger team. You only need to look at the heights that our almost 300 alumni (students and mentors) have reached in the STEM field, as engineers, doctors, scientists, programmers, and other professionals. Through *FIRST*, we strive to create a better future, not only for our students, but also for the community around us. We are the AdamBots: an inspiring learning environment dedicated to building a global *FIRST* community.