

# The 2 Train Pulls into the Station for the 20th Time

October, 2018



## Welcome to the 2Train Robotics Newsletter!

This newsletter is for the patrons and community of 2Train to stay updated on the happenings of the team in the 2018-19 FRC season! For now, we'll be updating you monthly until build season and competition time, where we'll have more frequent updates. This is our way to say "thank you" for your continued support, and to keep you in the loop.

This year, the 2Train family has expanded, with new mentors and members. We have welcomed over 20 teammates, most of whom are new to engineering but are eager to expand their horizons. Our new mentors are equally eager to guide the team and share their knowledge on FRC with the growing team, a partnership which also enables them, as mentors, to gain a new experience of their own.

Starting last season, the team has been focused on expanding this very community. Team members travel to the Bronx Renaissance Youth Center in the South Bronx to run an after school mentoring program for kids ages 5-11 and organized a VEX iQ program to generate interest in robotics among young children.

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Offseason competitions are a perfect way to engage new members and mentors as well as integrate them into the FIRST flow. This introduces new members to the FRC environment, fosters a bond between mentors and members, all while having fun with incredible robots.

This month 2Train attended a college fair in Co-op City, on October 6th from 10am-2pm. The past few years, we have visited this college fair in the northern Bronx area. This was an enriching experience for people of all ages. We wanted them to understand the



message of FIRST Robotics and potentially get them interested in STEM, especially robotics. In order to do so, 2Train set up its robot to allow people to play with a real competition-ready FRC robot. People of all ages participated and they played games; they worked upon how inputs and outputs work to make a robot move. With information on how inputs and outputs work, we taught kids information they would not learn elsewhere such as school, or at home. However, that was not all that we did. We put our old Chairman's board up, and another poster board of our old 2Train teams throughout the years. Children and parents alike asked many questions about robotics, and many of them signed up for involvement of future events by joining our email list. This was a successful event and we exposed countless children and parents alike to what robotics is.

On the 27th of October, 2Train went to the Ecuadorian Consulate to teach people about what participating in FIRST Robotics has done for us individually, and to broaden children's horizons about STEM. Former 2Train student and current mentor Lori Gonzalez connected 2Train to the Ecuadorian consulate to organize the event. The presentation was in both english and spanish; that is, of course, because we were presenting primarily to Ecuadorian children and families. During the presentation, individuals on 2Train elaborated upon what FIRST has done for them as individuals, and attempted to explain the importance and significance of education in the STEM field. We ran a panel to effectively inform people about FIRST's message, goals, and missions, and the impact of FIRST on students in FIRST programs. Children and adults asked a variety of questions; we talked about what we can learn from robotics, how it can advance our careers, and different programs that FIRST organises, ranging from Jr. FLL, a lego robotics program for elementary school students, to

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FRC, a full robotics competition for high school students. 2Train was able to discuss the message of FIRST and its effects on our lives in the panel, and later on also gave active demonstrations of robotics for children.

During the event, children were very engaged because this was one of our most interactive events. Many of the children, whose ages range from 4-10, worked on a project with one of the FIRST Lego League robots 2Train has. This project was around 30 minutes long; much of the project was built upon a direct input-output command. 2Train really feels as if what we had done on this day reached out to many of those children. We accomplished all the goals that we set out to in the beginning.

This month, we've organized our team into subgroups to help us better tackle our goals for the season. With new and veteran members alike joining groups that cater to their specific interests, we've been able to build off each other during meetings. As the team reaches its 20th year, we've understood the importance of recognizing education as an iterative process, and by introducing a sense of community in old and new members alike, we've been able to pass knowledge down to future generations.

The design team has begun researching different ways to implement a swerve drive onto our robot this season. This drivetrain is a more complex, but highly useful way of manipulating the robot. The mechanical team has been doing the a team building exercise of working together to build a chair using the resources of the Columbia University lab the team operates out of. The electrical team has been working with new members to teach them the inner workings of the electrical system on last seasons robot. Therefore, through both learning from our mistakes and analyzing what we did right, we have come together as a team to become more effective at designing and creating future robots. Lastly, our programming team has been teaching the new members java in order to program during the build season.

Many teams may consider the offseason as downtime, but for 2Train Robotics, 20 years has taught us that this is the time to pull out of the station and lay an important foundation in robotics among our younger members. The team is excited for the year, and ready to tackle any challenge thrown at us.



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Expect to hear more from 2Train in the future!