

TEAM 4909



Billerica Bionics

Preseason Newsletter

RiverRage

On October 29th of 2016, Team 4909 participated in an offseason robotics event called RiverRage 20. RiverRage is annually conducted by two robotics teams, Team 238 and Team 501, in Manchester, New Hampshire. Usually, hosts of the offseason events try their very best to recreate the past season's FRC game. The hosts of River Rage 2016 reconstructed FIRST Stronghold as very best as they could, but mildly changed some of the rules to keep the flow of the game more interesting. RiverRage is a great experience for rookie robotics members of the upcoming season. Also, it is a great way for veteran team members to re-engage back into robotics after a long summer break. RiverRage is similar to most season events as an extremely similar version of the game is played, but also all of the teams attending River Rage display an incredible amount of spirit. All of the students were wearing bright colors that represented their teams and schools. Additionally, some of the students (and even their robots) were in costumes, as Halloween was right around the corner at that time. While most members of our team attended River Rage, not all of the members of the team was in the same place at the same time. Some of the members were in the pit working and repairing the robot. These members consisted of our veteran team members along with our rookies. Other team members were within the stands scouting with other teams. Our team of scouts use our scouting system we created to analyze other teams' performances which greatly helps with alliance selection later in the day. Our scouting system was created by our own members and is something our team is extremely proud of. In terms of our drive team, we allowed some of our new members to drive the robot on the playing field during the qualifying round. This ensured for all members to get a taste of all the different parts of a typical competition atmosphere. When the competition was in eliminations, the drive team from the last season competed. River rage was an overall great offseason event to get veterans ready for our upcoming game and even establishing to our new team members in regards to how much enjoyment a robotics competition can bring.



River Rage 2016 in Manchester, NH

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Team4909.org

[FIRST Website](#)

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[Game Teaser](#)

[Safety Animation](#)



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Team 4909 Bake Sale at Billerica Winter Orchestra Concert

Business

Since the start of preseason, the business team has been hard at work participating in fundraisers and reaching out to our community. The business team has also been hard at work on multiple FIRST Awards. We have decided to apply for all awards that FIRST offers, which include the Chairman's Award, Woodie Flower's Award, and the Entrepreneurship Award. Our main goal will be to win the Chairman's Award which is the most prestigious award FIRST offers, and includes questions, an essay and a video. However, we are aiming to win all three awards, which is a high goal, but we believe we can achieve it. Team 4909's business team is ready for kickoff on 1/7/2016 as well. Speaking of kickoff, we have been in contact with Billerica Town Chairman, Mr. Andrew Deslaurier, who has graciously accepted our invite to come our event. Team 4909's business team has a lot in store for the upcoming season!

Outreach

On September 17th, 2016, the robotics team participated in the annual Yankee Doodle Parade in Billerica. We set up a float displaying our previous robots, as well as holding an open house at the high school to attract potential new members. On 12/3/2016, we also held our first Savers Fun Drive Fundraiser. Community members would bring in used goods such as clothes, shoes, and toys, and we would collect them and bring them to the Savers in Wilmington where we would get paid per pound. Thanks to great advertisement and community help, we ended up collecting over 6000 pounds in items. Additionally, we held 2 bake sales this preseason as well. One at our annual town tree lighting ceremony, and another at the Billerica Winter Orchestra Concert. Members of our robotics team donated multitudes of delicious baked goods, and we sold them for enormous profit at both events. Again, great fundraisers that we are bound to do again. Along with these fundraisers, the business team has been in contact with the Billerica Senior Center in hopes of volunteering our time to help the elderly.

UPCOMING EVENTS

FIRST FRC Kickoff

1/7/16

Billerica Mem. High School
35 River Street
Billerica, MA 01821

2017 Build Season

1/7/2017 - 2/21/2017

Billerica Mem. High School
35 River Street
Billerica, MA 01821



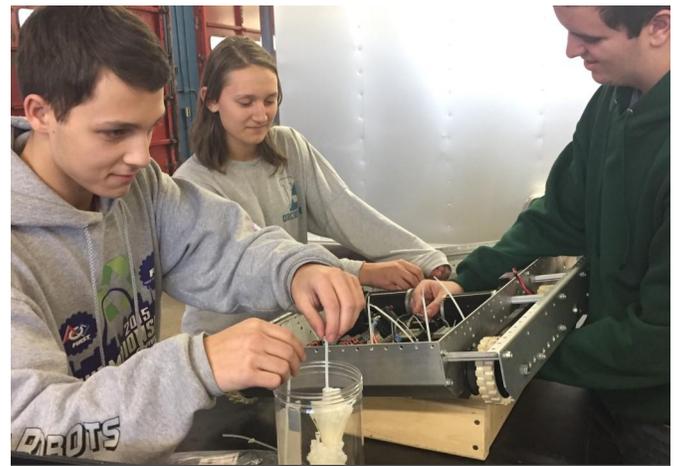
FTC Velocity Vortex Game Analysis



Savers Fundraiser



Process of Programming the Practice Bot



Process of Electrically Wiring the Practice Bot

Local FIRST Program Support

As well as focusing on our preseason activities, Team 4909 has also been involved in helping the FTC, FLL, and FLL Jr. FIRST teams in our town. We supplied the FTC Team (Team 10692) with valuable insight and strategies regarding their game and ended up doing very well at competition. Also, we continued to mentor the Billerica FLL Microbots and FLL Jr. Bots Team as well. Our efforts resulted in the teams becoming semifinalists and winning the Inspiration Award at the Lawrence Qualifier. We are very proud of their efforts and achievements!

Mechanical/Electrical/Software

Since the end of FIRST Stronghold, the robot section of our team has been hard at work preparing for our upcoming build season. With a large addition of new members to our team, there was a lot to be done to prepare them in the software, electrical and mechanical fields. Our top priority will always be the safety of our peers, which is why one of our first meetings was to go over tool safety and general safe practices within our robotics shop. We reviewed basic rules such as the fact that safety glasses must be worn at all times. In addition, we went over how to use various equipment such as the drill press, chop saw, and band saw. To go along with safety, veteran Jared Botte created a safety animation video which was submitted for a FIRST Award. The video was highly successful and we hope you take some time to watch it. As the preseason progressed, we began to clean, organize, and rearrange the equipment and tools to make our space more tidy and functional. On the software side of things, we cleared out a space dedicated entirely for programming purposes. After that was completed, rookies were taught to program in Java, and even explored new sensors such as the NavX MXP. Other members of team began learning how to CAD using PTC Creo, which will come in handy when designing the robot. Rookies brought all these skills together and built a practice robot, along with the assistance of veterans, alumni and mentors. The robot had some malfunctions after being built due to some wiring and software issues, but is now fully functional and working like a charm. The final touches are being put on the shop and preseason projects, as build season approaches. Inventory is being taken of every tool and placed into an excel chart, to keep track of all tools in the shop. The software department has been hard at work designing a new scouting method that can be used for competitions to find the best allies. Along with the rest of the robotics team, the robot side of team 4909 is well-prepared for build season.



Thank You To Our Sponsors

