

The Cyber Cycle

The Highlanders FRC



“The Cycle of Success”

The Northern Arizona Regional Tournament, Flagstaff AZ, March 10-12

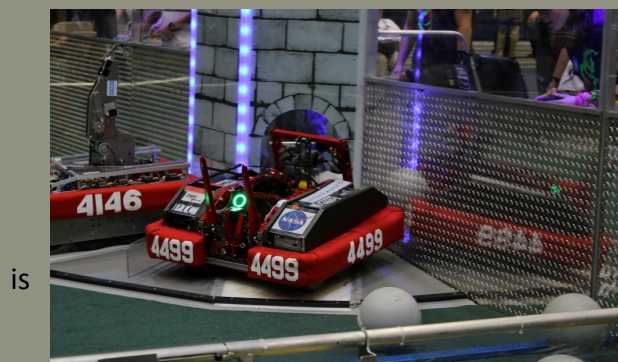
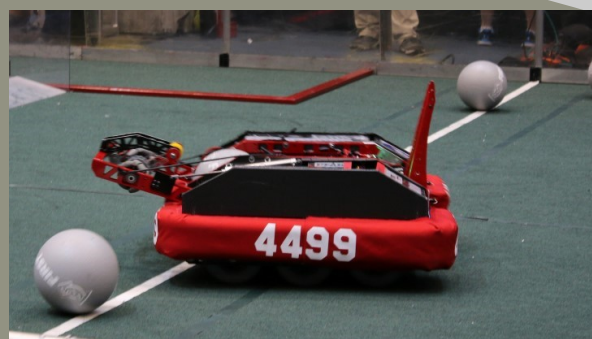


The Highlanders had an amazing first tournament of the 2016 season! Magnetar (and the drive team) performed very well, and took 3rd place overall after the qualifying rounds! We were able to pick teams to form the third place alliance, but got knocked out in the quarterfinals. Then came the big surprise—we were named the Engineering Inspiration Award winners! This means that we are headed to the Championship tournament in St. Louis, MO in April. And that NASA is paying our entrance fees! All of the team members worked hard and had great success. The drive team was on task, and the pit crew made sure the robot never broke down. Our Chairman’s Award team made a very well received presentation, and our scouting team was on the ball, making sure we knew everything we needed to know to pick teams for elimination rounds. All together an incredible start to our season!

Watch Us at the Colorado Tournament, March 25-26 at DU’s Magness Arena.

Or on www.TheBlueAlliance.com

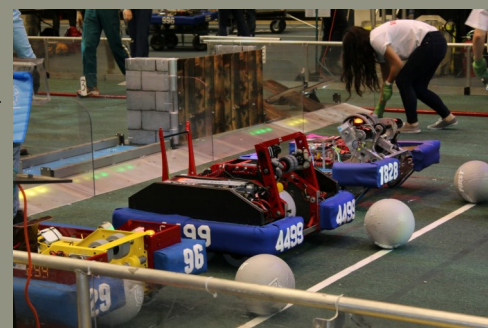
The Robot... Performed really well. With no major mechanical failures (one small one, we'll get to that later), Magnetar took the beatings on the field like a pro. It sailed over obstacles, scored in the low goal and defended against other robots. This is not a bot that gets pushed around—in a shoving match, Magnetar wins. Most of our time on the field was spent moving—picking up balls, then driving over obstacles, up the batter and scoring in the low goal. Our catapult didn't see much action; the vision code wasn't quite ready, and the competi-



is

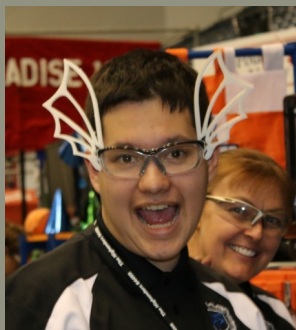
tion robot's throw was much stronger than the practice bot. This meant that the practice that the drivers had in the shop didn't give them a good frame of reference. They were really successful with the low goal, though, and were able to score many goals that way. Our only mechanical problem was with our 'prongs.' This the mechanism we designed to lift up the portcullis and push down the cheval-de-fries (see-saw) defense. At one point it came down too early, got stuck on a defense and snapped an axle. We told you that Magnetar doesn't mess around!

tion robot's throw was much stronger than the practice bot. This meant that the practice that the drivers had in the shop didn't give them a good frame of reference. They were really successful with the low goal, though, and were able to score many goals that way. Our only mechanical problem was with our 'prongs.' This the mechanism we designed to lift up the portcullis and push down the cheval-de-fries (see-saw) defense. At one point it came down too early, got stuck on a defense and snapped an axle. We told you that Magnetar doesn't mess around!



The Pit Crew... was tasked with getting and keeping the robot at peak performance. Thursday morning started with modifications to Magnetar. The team had put together some improvements since bag & tag, and had to put these onto the competition bot. A 'stinger' was added to the intake, to serve three functions: prevent the ball from rolling out over the top of the intake, to hold it in place when driving over obstacles, and to push the ball back out of the robot for low goal scoring. We also added the prongs to the opposite side to allow us to manipulate the portcullis and see-saw. And we added the bumpers and side plates.

For the rest of the tournament the pit crew checked the bot after each match, making sure nothing had come loose. They dealt with minor problems and generally took care of things. Alex, Stephen, Tyler and Jack were the key pit crew members. The drive team and other members helped when needed too, of course.



The Drive Team... spent the day driving! They pretty much moved from the pit to the practice field to the competition field, with breaks for eating only when forced. John, as drive team captain, worked with the other teams on the alliance to develop and implement strategy for each round. Michael was our driver, and Dawson our gunner—the guy who fires the catapult. Annie was our human player, most often on the opposite side of the field from the drivers, using hand signals to indicate the robot's location and situation. She also managed to carry zip ties around in her hair—something the guys had never thought to do!



The Chairman's Team... presented to the judges on Friday afternoon. Having practiced a lot already, they went in nervous but ready. They came out again thrilled with how the presentation went and the reception they got. They were right to be so happy—the work they had put in paid off. Because of the work they put into essays, the presentation and a video, along with the work the team had put in all year, we were given the award for Engineering Inspiration. The judges chose us because of the unique ways we have tried to reach different audiences, show our robots off to youth groups, participating in the 4th of July parade and dressing a robot up for Halloween. Congratulations to the team, and thank you to our Chairman's presenters, Nela, Ben and Annie.



Not Just Hard Work...we also got to have fun, sharing a dinner with Ridgebotics, another team from Fort Collins, and having team meals & meetings back at the hotel.



Special Projects... Were a big part of this tournament. We often had students at the safety glasses table, ensuring that people entering the pit area were wearing safety glasses. Zach and Ryan are pictured below at one of the tables. All together our team put in more than 12 hours doing this valuable volunteer work. Andrew and Jocelyn are shown here handing out our Rookie Survival Kits, tool bags with an assortment of helpful and fun items, plus some good advice for 1st year teams.



The Scouting Team... Was really critical. Because we wound up 3rd overall, we needed to pick 2 other robots to work with us as an alliance for the elimination rounds. But we didn't just want the pick any robot—we needed to know what the other robots could do, and how well they would complement our robot and our strengths on the field. The scouting team worked all three days to capture data on the 51 robots there, noting their capabilities as well as tracking their actual performance on the competition field. These folks were able to give John a lot of insight into which robots would be the best alliance partners. The scouting team was led by Hunter and Ryan, assisted by Andrew, Jamie, Jocelyn, Liam, Simon and Zach.



And a special thank you to our sponsors...We couldn't do this without you!



Don't forget to watch us at the Colorado Tournament!

March 25&26

University of Denver Magness Arena

Www.TheBlueAlliance.com