

THE VALOR OBSERVER



FIRST Robotics Competition

Robotics Competition (FRC) is a robotics competition in which students have six weeks, and strict rules to complete the game challenge that is released every year in January.

2019 FRC Kickoff

This year's competition game, Destination Deep Space, is a space themed game that involves filling rockets, a cargo ship and climbing onto leveled habitat platforms. Teams score points by attaching hatches (circular pieces) and putting cargo (rubber playground balls) into the rockets and cargo ship. During end game, robots climb onto the habitat zone with 3 varying levels.

Build-Season Week: 1/7-1/11

After the game was released on Saturday, Jan. 5, we immediately started brainstorming the design for the robot. As a group, we decided what tasks we wanted to complete and what would need to be done to finish every task we decided on. We then split into smaller groups to develop some design ideas for a lift and a collection device. When we regrouped, we presented our group's ideas to the whole team. After we decided on a basic design and lift, we went straight to building the chassis for the competition and the practice robot.



KEEP UP WITH VALOR ON SOCIAL MEDIA!

<http://viperbotsvalor6800.com/>

<https://twitter.com/FRC6800/>

<https://www.facebook.com/Valor6800/>

<https://www.youtube.com/viperbotsvalor/>

INTERESTED IN BECOMING A FIRST VOLUNTEER?



For more information, click here :

<https://www.firstinspires.org/node/3551v>



STUDENT SPOTLIGHT



Adelaide Johnson

Team Captain/Chassis Lead

This week I worked on manufacturing chassis bars, we are trying to get everything ready for powder coating by Saturday morning. I also assembled one of the transmissions we will be using to power out the drive train. Hopefully, we will get everything back from powder coating next Saturday so we can have two fully assembled chassis by Monday.

Tim Terisgni

Electrical/Chassis

This week I removed electrical components from the old robot and began planning wiring for our new chassis. I then started working on a prototype for the ball intake with Shawn and Philip, other members on the Chassis and Electrical team. Next week I plan on starting wiring for the chassis after it is complete.



MEET THE MENTOR



Ben Helgeson

Technical Mentor

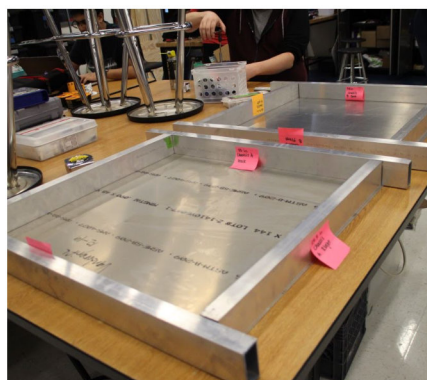
I graduated from UT Austin with a bachelor's in Physics Space Sciences, and Astronomy. Currently working at ARL doing precision pointing determination for ICESat-2. I did 4 years of FRC in high school with Michael Ray and came to mentor when the team started. Currently mentoring the chassis sub team primarily, but helping the others as well.



SUB-TEAM UPDATES

Object Collection Device

We began to prototype different cargo intakes in an attempt to find the necessary geometry to pick up the balls over our bumpers. We found the two roller intake worked best, one of the rollers is used to collect the ball off the ground and the other is to roll the ball over our bumpers.

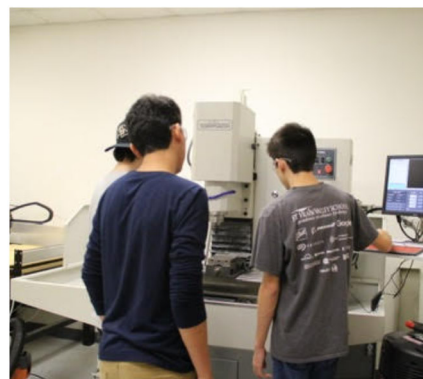


Chassis

We are trying to get two chassis manufactured this week so that all of our parts can be sent off for powder coating on Saturday the 12th. We are a little behind due to problems we ran into when trying to use the router, however, we should be able to finish all of our chassis bars on the mill. We are also manufacturing transmission plates and have assembled one of our transmissions.

Above Chassis

We had a design meeting about what we wanted to do with the upper chassis. After analyzing the best approach for landing on level 3 in the Hab Zone, we decided that we wanted to use the same basic lift design from last year. Our plan is to use a forklift to raise a robot to level 3 of the Habitat. Using a forklift also enables us to put it in reverse and lift our robot up. This occurs because the weight of the robot lifted anchors our robot, preventing it from tipping over when the lift is in reverse.



Controls

With the recent release of the official support for FRC using Visual Studio, the software side of the sub team has been hard at work updating and porting over off-season code from last years robot to provide availability to a prototype bot. Surprisingly, this proved to be a challenge at the beginning of the week as we discovered that most of the electronics needed a firmware update. The electrical team verified any and all wiring on last year's robot and quickly developed a plan for mounting the control system to the new chassis. Afterward, they quickly joined other hardware members to prototype designs, mainly intake.



PICTURES OF THE WEEK

