The Valor Observer

Build Season

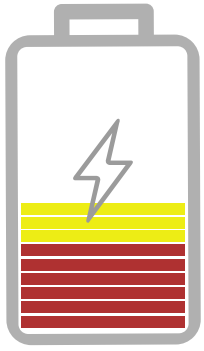
Week 5
Feb 2-8, 2020

Game Summary

Renewable sources of energy are everywhere, all the time. Working together in the 2020 season of FIRST Robotics Competition, INFINITE RECHARGE, we can support boundless innovation and create a society that's empowered, inspired, and hopeful. In INFINITE RECHARGE, two alliances race to collect and score Power Cells in order to energize their Shield Generator for maximum protection. To activate stages of the Shield Generator, robots manipulate their Control Panels after scoring a specific number of Power Cells. Near the end of the match, robots race to their Rendezvous Point and rise to the challenge.

Robot Report

We are getting close to the end of the build season, and the robots are well underway! This week's main focus was completing all the CAM files so the manufacturing subteam could start working in full swing. After this was done, all the design subteams converted to the manufacturing/hardware subteam. We needed all hands on deck to manufacture parts, especially with our second round of powder coat going out at the end of Monday! On the software side, we mapped out most of our autonomous paths. The robot will begin taking shape this upcoming week including bumpers and sponsor panels!



Robot status:
42% complete

Student Spotlight

Grant

Design

Junior

I started robotics in my freshman year because it seemed fun, I knew a lot of people in robotics, and I wanted real-world engineering experience. I spent two years on FTC and this is my first year on Valor. In college I would like to study mechanical or aerospace engineering at UT Austin. At competitions I am the driver, and I'm on both the CAD and hardware subteams. This week I worked on the CAD for the utility arm as well as finishing the CAM and drawings for many parts across the robot.

Jamey

Software

Freshman

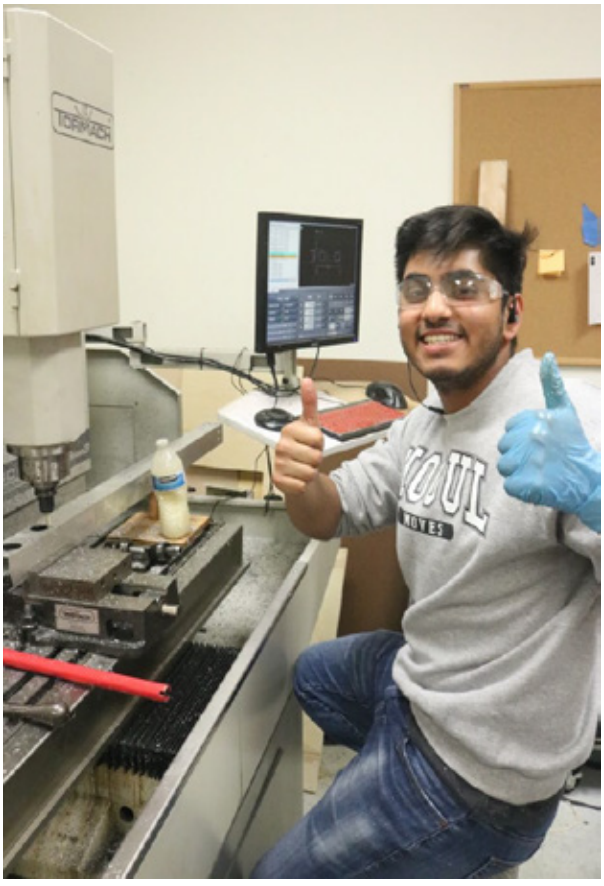
I started robotics in 1st grade in FLL Jr. and I have been involved ever since. I started robotics because I saw how much fun my brother was having, and for the chance to do something fun with my friends. In college I want to study Architectural Engineering, possibly at UT Austin, Auburn, or Penn State. This is my first year on Valor and I'm part of the software subteam, where I mostly work on learning the command system and autonomous. This week I worked on autonomous pathing, and drive striatinning code.

Evan

Design

Junior

I started robotics in 4th grade on FLL because I wanted to learn about engineering. After 4 years on FTC, I applied to FRC this year because I was eager to take the next step and expand my knowledge in real-world engineering. I would like to study mechanical engineering at UT Austin. During build season I am on the intake subteam, where I am the CAD lead. At competitions, I will scout other team's robots. This week I worked on making CAD drawings and CAM files to manufacture pieces for our robot, and I have finished designing the intake.



Sub-team Updates

Manufacturing

The goal for the week was to manufacture all the parts that need to be completed and ready to send out at the end of Monday to get powder coated. The mill crashed making it unusable until the end of the week. The router also crashed midway through cutting out all the hopper brackets, so we spent around 6 hours fixing the router. Next week we are going to finish cutting out all our parts and start assembly.

Design

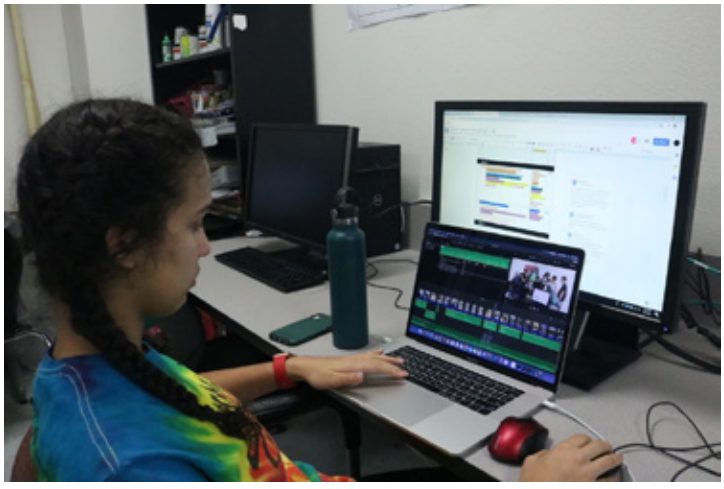
This week the design subteam made CAM files, part drawings, and updated Jira for all of the parts. We also received most of our parts that we ordered and then organized them by sub-systems. It was difficult to make sure that the CAM files for the router and mill worked. We also had to wipe the mill after having issues with the firmware. Next week we will make sure that there are no issues when manufacturing the rest of the parts and begin to assemble the robot.

Software and Electrical

Our goal for this week was to create paths for different autos and to integrate the ramsete command into our command based. It's designed so we can choose which auto path to run from the driver station through the shuffleboard. This week the main difficulty was figuring out how to best structure our code for auto in an intuitive way that would run efficiently. Next week we will continue our auto programming, finish a full integration into command based, and ensure we are able to run the robot once it's fully assembled.

Business

This week was a big week for the business subteam, we submitted our essays for the Chairman's Award and Woodie Flowers Award. We also planned the open house schedule, began our Chairman's video and speech, and started on the robot sponsor panels and bumpers. Our biggest challenge this week was managing all our current and upcoming tasks. Next week, we will send out invitations for our open house and work on new designs for our competition boards and banners.



Meet the Mentor

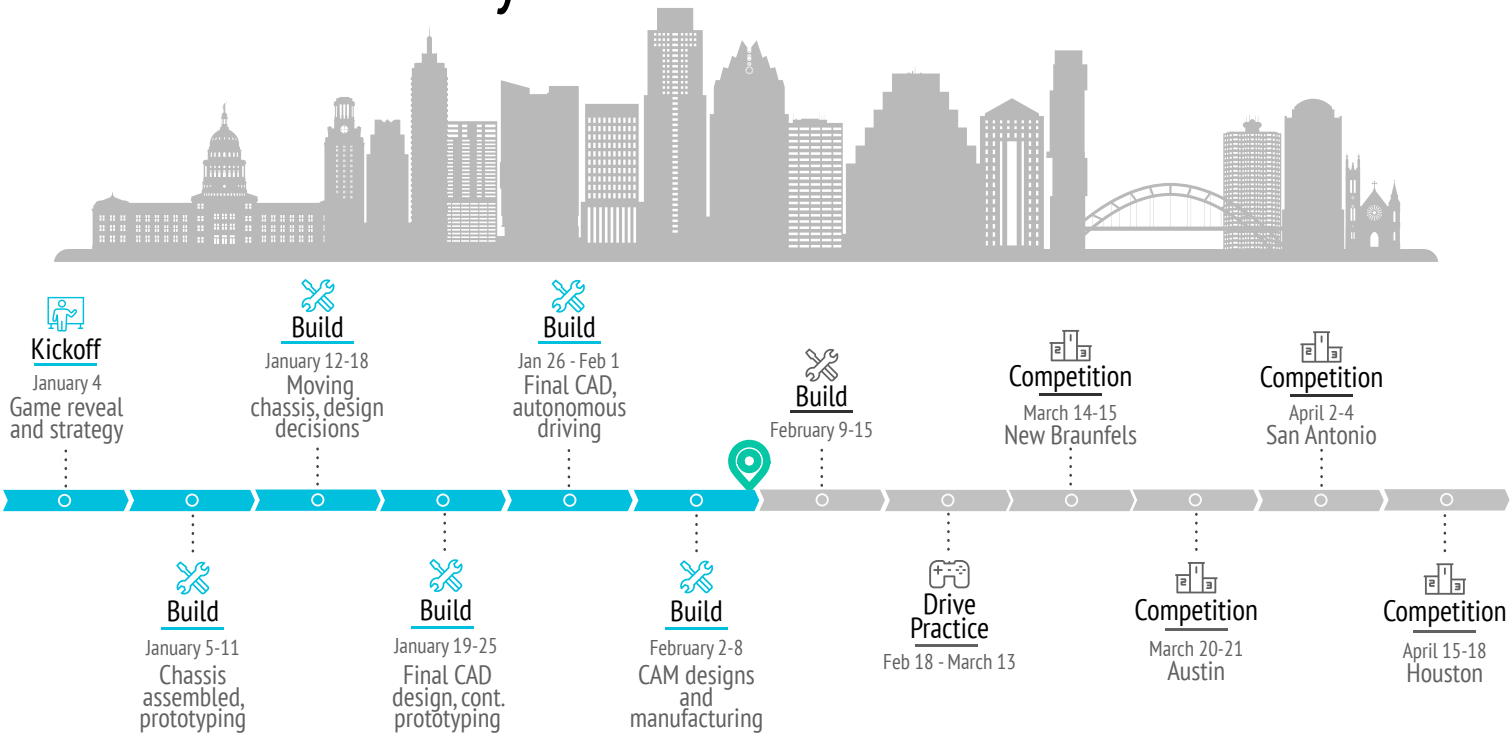
Kayleen Scott
Business Mentor

I am the Director of Marketing at Headspring, where I build programs for community engagement and thought leadership for software consulting services and open source libraries. I graduated from San Diego State University with a degree in Marketing, and got an MBA from the University of San Diego. I was introduced to Viperbots when an FTC team stopped by the office to share their experience in the program. (We even wrote a blog about it, you can read it here!) This is my first year with Valor and I mentor the business subteam. We are a dynamic team focused on marketing, community, and business—and I hope to share my experience while also creating space for us to learn and grow together.

Sponsor Showcase

Thank you to our sponsors for all their support! These partnerships help us pursue our mission and make a larger impact within the STEM community.

Follow the Journey



Quote of the Week

"Individual commitment to a group effort -- that is what makes a team work, a company work, a society work, a civilization work."
– Vince Lombardi

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