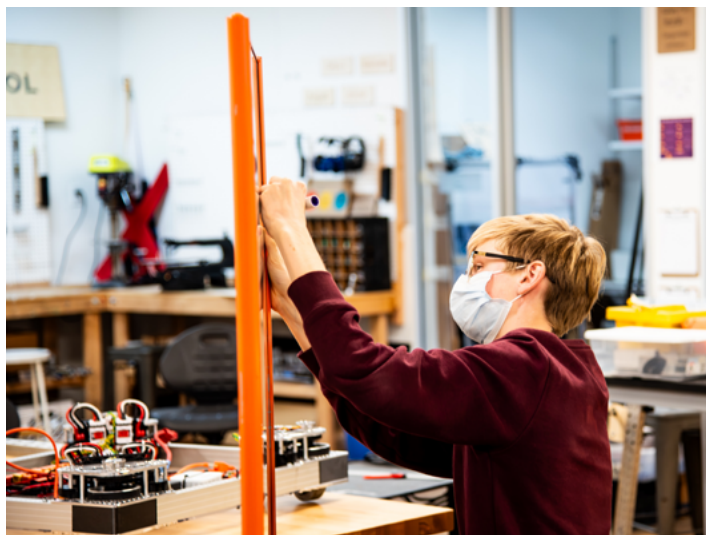




On Jan 6th, Team 6962 Antares embarked on the new 2024 season, [Crescendo](#), filled with difficult challenges.

Kickoff

Following a successful orientation and offseason, our team gathered on Jan 6th at 8:30 to begin the 2024 Crescendo Season. We started kickoff by watching the game-revealing livestream to get an introduction to the game, then broke up into smaller groups to analyze and create presentations on sections of the game manual. After that, we gathered to present our findings. In the same groups as the game manual presentation, we began brainstorming ideas for design with the “Sky’s the Limit” (any ideas) mindset. At the same time, a dedicated team began to work on the game strategy. At 3:45, with the day winding down, the strategy team presented their analysis and discussed what future prototyping should aim to do.

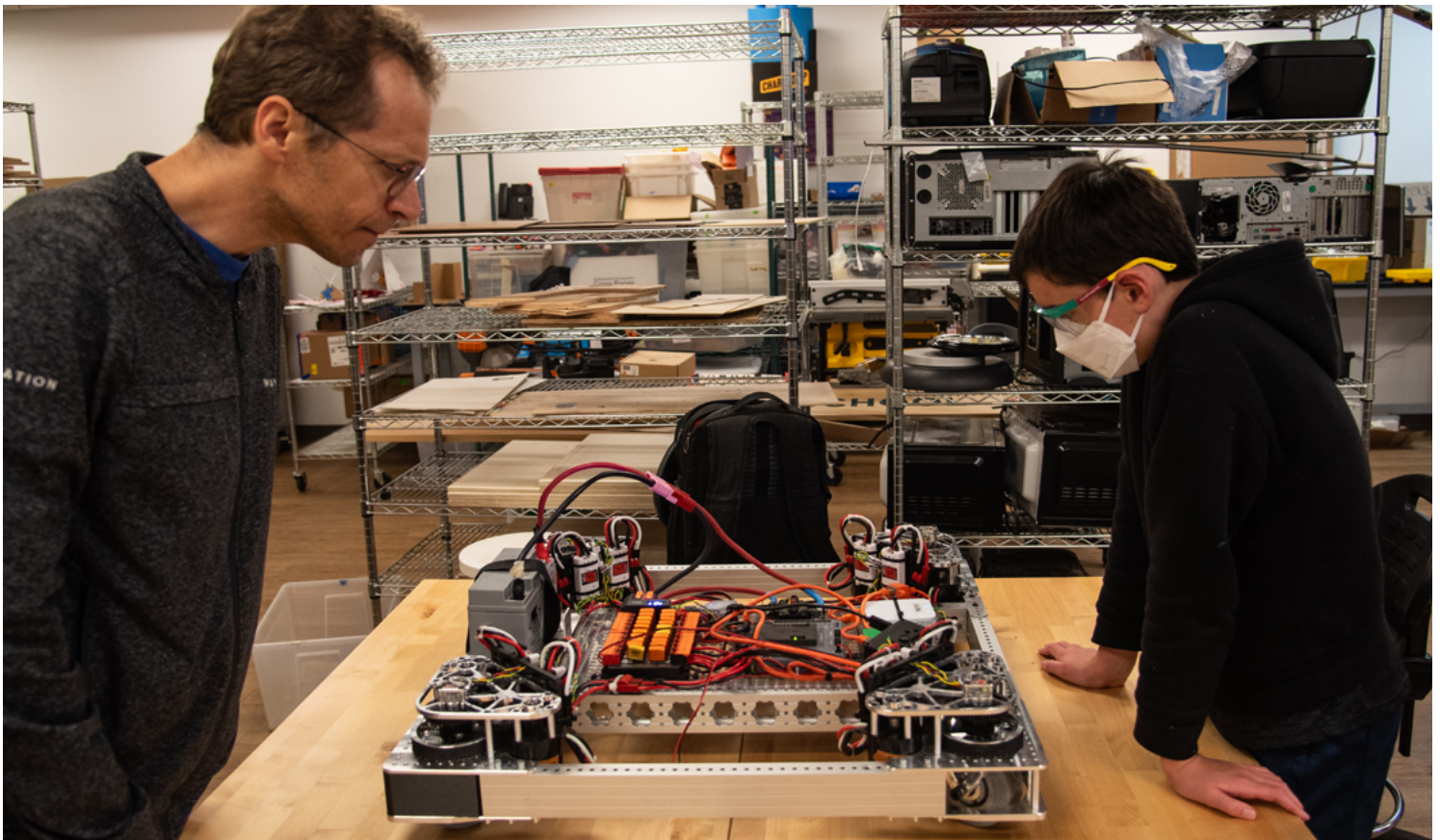


Build & Design (Prototyping)

Initial concept design began during kickoff, where we brainstormed basic designs. Throughout the first week, small groups worked on ideating and drafting concepts to address shooting the NOTE (ring-shaped game piece) into the SPEAKER, depositing the NOTE in the AMP, and collecting the NOTE from the SOURCE and ground. With the concepts and strategy in mind, we began the second week by prototyping for the shooter and ground-intake to experiment with multiple ideas before committing to and refining a single design. Our experimentation included testing top or side shooters, 2 or 4 spinning wheels, speeds, and gearbox ratios required to shoot a NOTE at the required speed. With the second week coming to a close, the entire Build and Design team met again to finalize more detailed robot designs allowing prototypes to tailor their designs to fit the needs. We plan to move to the next stage, design iteration in week 3.



Swerve



During the offseason, we began work to replace our tank drive system with a more agile, omnidirectional Swerve drive system. Led by Logan M., the team created a functioning chassis and wrote basic code. Continuing the work from the offseason, a team of half a dozen members began to rebuild the original and made a second chassis. The team compiled the aluminum frame, assembled five [swerve modules](#), connected the electronics, and is currently making final adjustments to the chassis. The second chassis will be ready within a week.

Vision

Historically, the vision group has been a small (but essential) part of our team. This year that changed: the team has grown, with nearly a dozen people working on it. The size has allowed us to make major progress, with effective task division and more experienced people helping. The group has already updated the firmware, made plans, and written code to get the exact location on the field and set up the [Limelight](#).



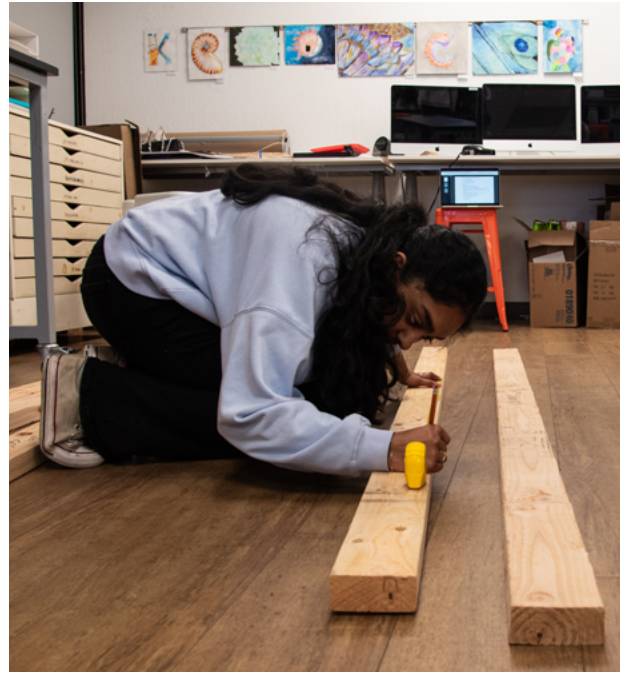
Kitbot

In the past, our team has taught rookies through weekly workshops in the offseason, however, in line with our school's philosophy of project-based learning, we have embraced the [Kitbot](#) this year. Led by former captains and now seniors Megan C. and Amartya I. The rookies are assembling the FRC provided Kitbot for a guided, structured "mockup" of the design process where they gain a strong foundation for robotics. "It's a chance for newer members to get hands-on experience early on and demonstrate leadership," says group leader Megan C. The team has already built the chassis, wired the electronics, and is currently writing the code from scratch.



Field Elements

We didn't just build robots: a group of a dozen people led by team seniors Sharanya N. and Pooja P. worked on building the components of the game arena/field for robot testing. The group first worked on the AMP (a structure used by robots to pass NOTES to the alliance area), which it created in under a week. They then moved on to the SPEAKER (the opening which robots shoot NOTES into) and SOURCE (an assembly through which human players feed NOTES into the field), and finished cutting and marking wood on January 18. The final assembly of the SPEAKER and SOURCE is ongoing and should be completed in early week 3.

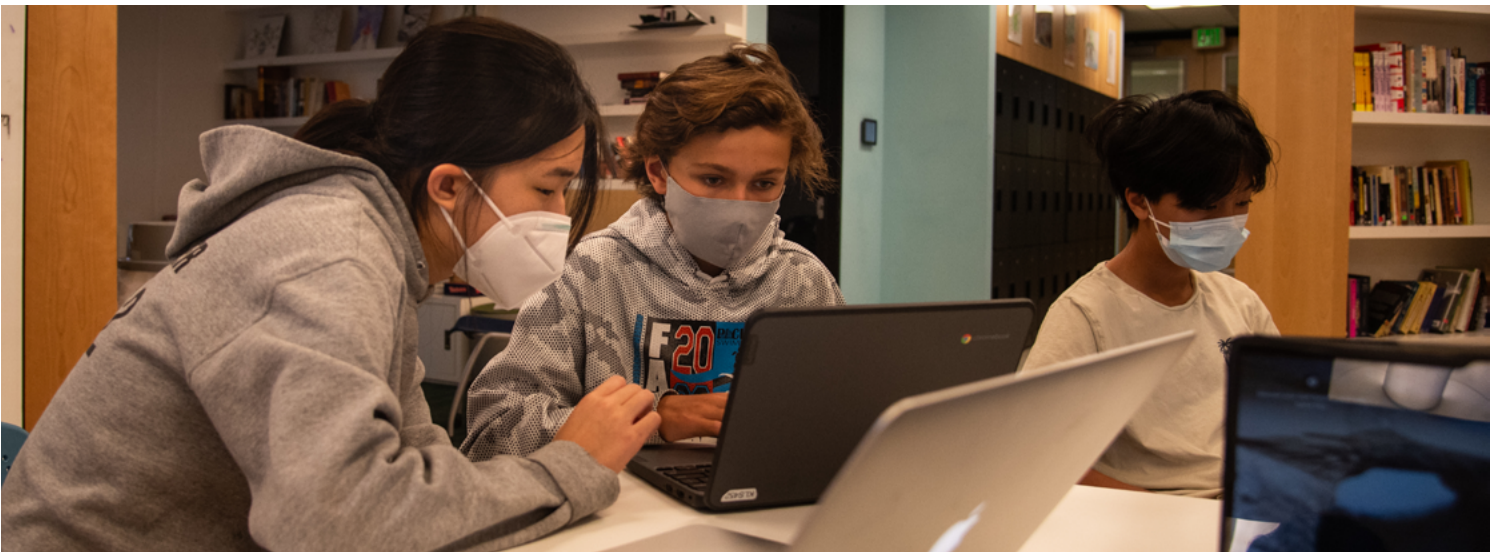


Outreach

Entering our seventh season, our team has experience that we want to share. This year, we took up an exciting opportunity: mentoring a rookie team founded by former Khan Lab School student Tycho Y., [Team 9470 Ctrl Alt Defeat](#). It is a new high school team associated with Basis School in Fremont, California. Lead mentor Chi-Ray Chien says, "We're excited to extend our learning and experience by mentoring another team for the first time. We were helped by our mentor team 971 in our first year and would like to give as much help and guidance as we received."

Awards

We have also begun applying for FRC [awards](#). Awards manager Meghna C. talked with the rest of the team, and we nominated lead mentor Chi-Ray Chien for the Woodie Flowers Award (given to an adult mentor who has done an outstanding job of motivating and challenging students) and co-captain Sophia D. for the Dean's List award (given upon recognition of outstanding leadership and dedication for secondary school students).



More frequent updates can be found on the [Antares Instagram](#).