

The inner side of a C-Channel often doesn't get much use, as parts often don't fit inside of the channel. There have been plenty of times where I have wanted to attach parts perpendicular to the C-Channel, but there simply wasn't a part to do so. With the C-Channel Angle, you can now attach other parts 90 degrees from the inner side of the C-Channel. The part also has 5 screw holes on each side of the angle, enabling more freedom for putting in screws. No longer are the days where the inside of the C-Channel receives little to no use. The part also isn't limited to the inside of the C-Channel, and can also be used on the outer side of the channel, or even with completely other parts to ensure a sturdy 90 degree angle. We will use this part to have more versatility in building our chassis, as our wheels will be attached to the C-Channel. To build this part, our team used Fusion 360 version 2.0.9439. This year, our district did not allow us to build robots in person or get the parts to comply with social distancing guidelines. As a result, our team had to find new ways to engage with the robotics community at Bonita Vista High School. We took to Computer Aided Design, something that our team had never used before. It gives us an outlet to express our creativity in robot design with access to unlimited parts. This project has taught me and my team to think outside of the box and take an alternate approach to robot design. Instead of focusing on what we did have, this challenge enabled us to think beyond that, and come up with unique solutions to certain problems. This has been valuable, and we plan to continue using CAD software even after we are able to meet back in person once again. Programs like these also have influences beyond robotics, and lessons learned can help us in our career paths in the future. As an aspiring aerospace engineer, CAD is essential for modelling the parts used in complex rocketry systems, as well as for simulation. I plan to keep using this software even after I graduate from High School to make a positive impact not only on my community, but on the rest of the world.