

4478F's submission to the "Make it Real" Cad Engineering challenge is the i channel. Our model was created using Fusion 360 model 2.0.9313 using a student licence. The i channel is a piece that would allow a team to have an easy way to create a larger amount of stability for a lesser amount of space than the currently available. Using the i channel the amount of points that could be connected between channels doubles and covers both sides. The symmetric balance of connections allow for weight to be distributed more liberally on the channel without needing standoffs to be implemented, a current solution that takes up much more space than the i channel would. Having the part be available, using the advantages it gives, would allow a greater degree of design as the i channel would give bases more holes in which to connect other parts to. Each robot could have double the available places in which they would connect other channels, standoffs, mesh, or batteries. Each open space would allow flexibility for less experienced teams to position pieces without major deconstruction of their robot, allowing them to develop their strategy at a more effective pace. While teams with more experience could find great use in the additional space and stability that the channel offers. In our creation of the i channel started with tinkercad but quickly we found out the limitations that came with using the program so switched our creation over to Fusion 360, which we used to create our final product, teaching us the importance of scouting the program you plan on using much more deeper than before. Our use of CAD and modeling has been a focus of our improvements this year as a team, our goal is to use it to plan out changes in advance so we can find out what angles and lengths are needed for each piece and if the change will take us out of the allotted space for our robot. The team member who made the design is planning on using his knowledge of CAD and expanding it into a career of mechanical engineering.