During the summers of 2016 and 2017, I worked at Rev Robotics, an educational robotics company which provides parts and control systems for high school robotics teams participating in the FIRST Tech Challenge. While there, I worked on various projects ranging from improving a robotics kit meant to be used to teach robotics in the classroom to developing example robots using only Rev parts. One of these example robots was a working Wall-E robot which was developed for promotional purposes.

I designed this robot from the ground up using only Rev Robotics parts and a Wall-E toy to base my measurements off of. From there, I completed the entire CAD model prior to assembly in order to ensure all the tight tolerances would work before building the actual robot. At completion Wall-E was able to drive around, fully articulate its head and neck, move its arms around, and open and close its flap.

As I was using a set build system to create this robot, I began by using the 3 sizes of wheels to determine my scale factors, resulting in two possible scale configurations. I selected the smaller option which resulted in a very compact robot with very little tolerance

While I served as a Mechanical Engineering Intern for Rev Robotics, I worked on various projects ranging from helping improve educational robotics kits to be