**Control Flow:** After deciding on a method to classify images, the next design problem to be solved was how to use the information provided by the image classification code to sort the pieces it identifies. In the initial image classification testing the computer engineer (Jimmy Vue) and electrical engineer (Tyler Martin) developed a method to assign labels to the numerical data returned by the image prediction. The image prediction outputs a prediction strength value for every class in the model each time a prediction is made. To turn this into usable data, the class with the highest probability is found using matrix operations. In a similar fashion, the index position of the highest probability is used to assign the proper class label from another matrix. This enables us to display exactly which part was identified if we desire and to use the classification labels in a series of case statements. Each case will have an assigned set of motor control assigned to it to ensure the part makes it to the correct container. The motor control code inside the case statements will be preset positions for the servo and stepper motors. Each case statement will also have a counter to track how many parts from each class pass through the scanner, telling us if we have missing or extra parts in a kit. For the overall flow of the system, IR sensors will be used to monitor the system at two points, the hopper output and at the scanning chamber.  The IR sensor at the hopper will monitor the parts flow and will be used to shut down the machine when all the parts are sorted. The IR sensor at the scanning area will be used to temporarily halt the main conveyor and the shakers to prevent multiple parts from falling onto the scanning conveyor.