Engineering Notebook 1

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Week 1 (1/17 – 1/22): Was assigned the task of taking notes at meetings as well as setting up the lidar to use for object detection and to be able to use the data given back from the sensors to be able to help the object avoidance module. Last semester I had researched how lidar worked as when I was working with the distance sensor, I considered using lidar instead but found that for last semester the distance sensor would suit our needs better. For this week I plan on learning more on how to properly implement the sensor and how to utilize it for object detection.

Week 2 (1/23 – 1/29): Was able to implement the sensors into our settings.json file as well as test it with the environment we are using to see if the lidar was properly detecting objects. I am now working on a function to utilize the lidar to detect an object and return the x, y, and z coordinates of the objects so that we can see where the object is and if it is moving towards our drone.

Week 3 (1/30 – 2/5): Have been successful in implementing a very simple object detection called simpleDetection which returns true if the lidar picks up an object within its standoff range. Also have learned about a setting in settings.json that allow the data received by the sensor to be more accurate to where the lidar sensor is located relative to the drone. Been also honing in the lidar settings so that its more precise in what it is detecting.

Week 4 (2/6 -): Have been working on implementing a more complex version of simpleDetetction to parse the data from the lidar into a data frame that we can use to extract the data from to use for our object collision module.