CHAPTER 6
CONCLUSION

Based on the results of the conducted tests, this study verified that an object's mass can be calculated by using the object's image top view and side view. DBSCAN helps a lot in improving the accuracy of this model, in which the DBCAN cluster can successfully grouped the data based on the similarity, making k-NN easier in locating the nearest point neighbour. From previous tests being held, smaller minPts value proved in increasing the result accuracy which is reasonable in reason although the output consist of more clusters but each cluster tends to have a more accurate similarity. Moreover, minPts value has a nonlinear relationship with the amount of cluster formed which is proved by the analysis result and regression linear graph where the higher of minPts value the smaller amount of cluster formed.

Various distances yet affecting the result which can be seen in previous tests and 19cm is the best distance that achieves the highest accuracy among the others. Oranges have the best accuracy yet it’s proven that this model works best in estimating the real size of objects with green color. This model will identify the object’s edge more accurately when working with light color objects and black backgrounds because they tend to have a big color difference.

This mass estimation model accuracy average is 90,2%. This leads to the conclusion that the results have a good accuracy considering a small dataset and the author took the object’s picture manually with a phone and ruler for the distance which increases the possibility of human error.

This study suffers from a small sample of data and manual measurement. Nevertheless this study's final result is promising and has laid a great foundation for further work. However further improvement is needed such as accurate measurement, image lightning, and wider dataset to achieve a higher accuracy .