Project Abstract

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Team number : 07

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Project title: Garbage Classification using Machine Learning

Data set:

The data set for this project has been taken from kaggle
link : https://www.kaggle.com/asdxasdasasdas/garbage-classification

Keywords:

Multilayer Perceptron, Convolutional Neural Networks, Random Forest, SVM, Classification, Waste Management

Abstract:

Garbage - a result of human consumption - have a negative impact on living quality. If it is not classified properly it is difficult to decompose, recycle or landfill. A Machine Learning approach to classify garbage into recycling categories could be an efficient and smarter way. Careful and robust classification of waste materials is important given the strict controls required for storage, treatment and disposal of hazardous waste. The objective of this project is to classify garbage into 6 categories ie., cardboard, glass, paper, trash, plastic and metal. A detailed analysis with 2528 images; cardboard 403, glass 501, metal 410, paper 594, plastic 482 and trash 137 will be performed. Multi-class classification will be performed using SVM, Random Forest, Multilayer Perceptron and Convolutional Neural Networks and the best model for garbage classification will be determined.

References

- https://pdfs.semanticscholar.org/0d23/74ef52c9cdf2fab761d4e1dcc15566168bad.pdf
- http://cs229.stanford.edu/proj2016/report/ThungYang-ClassificationOfTrashForRecyclabilityStatus-report.pdf
- https://pdfs.semanticscholar.org/493f/4b8118f1b74e70a6ce18efba8b485b986166.pdf