

# Team: Phoenix

Topic: Demonstration of Garbage Classification Algorithm  
with possible integration with self driving car.

Archana Kumari & Arjun Ghosh

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# Agenda

- Overview
- Toolchain
- Short Demonstration
- Learnings
- Future Updates

# Overview

- This project deals with a Machine Learning Algorithm which classify images into 3 classes: paper, plastic, metal.
- The model is trained and tested with a raw dataset from kaggle "Garbage Classification" dataset.
- The model is trained and testes with 550+ paper images, 400+ metal images and 450+ plastic images, with a accuracy score of 93%.
- This project is a possible integration of the garbage classification model with a self driving car.
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# Toolchains

- What are the Toolchains we used?
  - Machine Learning
  - Kaggle
  - Lobe Software
  - Tensorflow
  - Self Driving Car
  - LaTeX

# Learnings

- Learnt Tensorflow.
- Learnt how to use Lobe for training and testing raw dataset from kaggle.
- Explored how to integrate ML model with Robotics.
- Explored machine learning and deep learning domains.
- Learnt about Version Control System.
- Learnt about Time Management.

# Future Updates

- Fully Integrate the Machine Learning model with self driving car.
- Integrate the model with a Robotic Arm to pick up garbage materials when detected.
- Make a fully functional Garbage Picking Bot.