



PROPOSAL FOR THE GRANT
of



STUDENT PROJECT SCHEME (TNSCST)

On

**“Plastic Detection and Management
in Rural Area using AI”**

Submitted to

TAMILNADU STATE COUNCIL FOR SCIENCE AND TECHNOLOGY

DOTE CAMPUS,

CHENNAI – 600 025.

Submitted by

K. PURUSOTHAMAN (611719104025)

K. SATHISH (611719104032)

M. SABARESH (611719104029)

R. SILAMBARASAN (611719104034)

Department of Computer Science and Engineering



**NARASU'S SARATHY INSTITUTE OF
TECHNOLOGY**

Approved by AICTE New Delhi & Affiliated to Anna University Chennai

Accredited by NAAC, Recognized by UGC

Poosaripatty, Kadayampatty Taluk, Salem, Tamil Nadu

636305, India



**TAMILNADU STATE COUNCIL FOR SCIENCE AND TECHNOLOGY
STUDENT PROJECT PROPOSAL**



1. Name of the Student (s) :

S.No	Name of the Student	E-Mail ID	Phone No.
1	Purusothaman K	Purusoth321pps@gmail.com	8056502858
2	Sathish K	sathishss9502@gmail.com	9500801968
3	Sabaresh M	sabariji05@gmail.com	7373339348
4	Silambarasan R	Silambumohit1430@gmail.com	9360858241

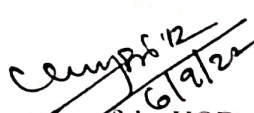
2. Name of the Guide : Ms. K. MANJUPARKAVI B.E., M.E.,
Department / Designation : Computer Science and Engineering /Assistant professor
Institutional Address : Narasu's Sarathy Institute of Technology
Salem Bengaluru Highway NH-7, Poosaripatty,
Salem – 636305.
Phone No. & Mobile No. : 9087000336
3. Project Title : Plastic Detection and Management in Rural Area.
4. Sector in which your Project proposal is to be Considered : Engineering & Technology
5. Project Details : Attached as Annexure-I
6. Has a similar project been carried out in your college / elsewhere? If so, furnish details of the previous project and highlight the improvements suggested in the present one : No

CERTIFICATE

This is to certify that **Purusothaman.K, Sathish.K, Sabaresh.M, Silambarasan.R** are bonafide final year student of B.E. Computer Science and Engineering course of our college and it is also certified that two copies of utilization certificate and final report along with seminar paper will be sent to the Council after completion of the project by the end of December 2022.


Signature of the Guide

MS. K. MANJUPARKAVI


Signature of the HOD

DR. R. VASANTHI


Signature of the Principal/
Head of the Institution

PRINCIPAL
Narasu's Sarathy Institute of Technology,
Poosaripatti, Salem-636 305.



ANNEXURE - 1

PROJECT DEATAILS:

1.1 ABSTRACT:

This study gives the scenario about the plastic Management services in rural areas around the world. Annually generation of plastic waste us in different countries and their management practices to come back plastic waste generation as be combine in this study. Different types of plastic generated by rural area. Polyethylene Terephthalate, High Density polyethylene, polystyrene Low density the plastic opened burning, reusing open dumping recycling landfill countries are making efforts to manage the plastic waste generation problem at rural level. Besides managing the problem at rural level it is required to aware people about the problem so that it can be resolved at individual level. This study concludes the management of plastic at rural level is most important as most population of the world resides in rural areas.

1.2 INTRODUCTION:

Plastics are made up of synthetic or semi-synthetic type materials and it is found that the polymers is the main ingredient. The word 'plastic' comes from the Greek word 'plasticos', which means something that can be formed or deformed using heat. Plastics are classiffied as polymer materials. There has been a constantly use of the plastic items, resulting in a proportional increase in the use of plastic products (Nxumalo, 2020). Single-use plastics have throwaway uses such as packaging of different items, agricultural films, and disposable consumer items, accounting for around half of all plastics produced (Europe 2008). The rapid increase in the generation of plastic wastes in the world simultaneously by production patterns, changing consumption and increasing the economic growth. (Ahmad 2020). Plastics are lightweight, inexpensive, and long-lasting everyday items. (Thompson, 2009). Due to these outstanding characteristics, production of plastic is increasing rapidly and imposes a great harm to the environment due to its persistency on land, water and in the sea (UNDP 2018). On a worldwide scale, waste from plastic has reached to 6.9 billion tons. (Meriono and Ayer, 2018). Table 1 shows the generation of plastic waste by different countries as per the baseline report on plastic waste by United Nations Environmental Program (UNEP). (UNEP, 2018). However, India was not considered in the UNEP report but on the basis of the annual report submitted by the CPCB, with 3.5 million tonnes of plastic waste, India ranks fifth in the world. Table 2 shows different types of plastic along with their properties (Lee 2002, Pitchel 2005).

1.3 OBJECTIVES:

The objective of the proposed system is as follows:

- Garbage in urban areas can be easily handled by sanitation workers but in rural areas it is very difficult because the villagers are not aware of the cleanliness of the environment.
- Such problems can be monitored using artificial intelligence and then detected there and cleaned by the local development office with the sanitation workers so that the sanitation workers do not go to work where they are not needed. Find out the place and keep it clean
- So, keep distance from plastic.

1.4 METHODOLOGY:

The methods used to implement the project are:

- Collection of Data about different types of plastics.
- Train our AI machine by feeding that data.
- Place the setup in rural areas at various places.

- After that continuously monitoring the places.
- If our system detects more number of plastics are there the immediately inform to Panchayat office and PDO office.
- To allocate the cleaning workers in founded places.
- Finally the cleaning workers come and collect that plastic waste.

1.5 PROJECT REQUIREMENTS:

- Mobile device (Android or IOS)
- Any system with 4 GB RAM

1.6 WORK PLAN :

Project proceeding from September 15, 2022 to December 16, 2022

S.No	Time Line	Process
1	September 15 - September 25	Collection of Data about different types of plastics.
2	September 26 - October 14	Train our AI machine by feeding that data
3	October 15 - October 30	Place the setup in rural areas at various places
4	October 31 - November 30	After that continuously monitoring the places
5	December 1 – December 5	If our system detects more number of plastics are there the immediately inform to Panchayat office and PDO office
6	December 6 – December 13	To allocate the cleaning workers in founded places
7	December 14 – December 16	Finally the cleaning workers come and collect that plastic waste

1.8 FLOW CHART :

