
Enabling AI programs for the Waste Management Sector



Background

The client is an European entity, associated with the waste management sector. It operates through collection, treatment, recycling and disposal of municipal, commercial, industrial, and hazardous waste. The company carries out screening of the collected waste to determine waste type, trash quantity, and type of waste disposal and treatment required with the help of smart garbage bins equipped with AI based technology and sensors.

The company offers an integrated smart waste management system developed to treat varieties of waste in an environment-friendly manner and also makes use of analytics to encourage people towards waste minimization.

Challenges Faced

Waste management requires sorting and filtering of waste, which is labour-intensive and time-consuming.

- Client implemented an AI program to automate waste segregation and processing.
- The program demanded high-quality training data sets, especially for waste categorization using smart garbage bins.

Solution by Cogito

Cogito Tech LLC was approached by the client for training data, specific to different categories of waste, required to train their AI program. In order to reach client expectations, Cogito offered below solutions:

- The client provided a list of 31 categories of waste, however, Cogito suggested more categories of waste, raising the category count to 45.
- A dedicated team of professionals was allocated for annotation of images. The team annotated thousands of images within the timeline.
- Cogito used semantic segmentation to know the quantity of the waste.
- Techniques like 2D Bounding Box & Polygon were also applied to annotate the training datasets.

Case Study



- The training data was developed under as per strict quality measures parameters.

The Impact

The training was delivered within the defined delivery timelines, keeping accuracy and data quality intact in the data sets created. The AI program implemented at the client end functioned with high quality training data and added mileage to the company's financial goals.

10K+

Man Hours
Invested

>1M

Objects
Annotated

99%

Accuracy

3

Level Quality
Check

About Cogito

Cogito is a hybrid data labeling platform following a model assisted labeling (MAL) approach to cater industry's leading businesses. The MAL model leverages a human workforce to label a relevant portion of the training dataset which enables training of the AI application. Playing an important part as human-in-the-loop, our solutions encompass business verticals ranging from Retail, Manufacturing, Building and Construction, to Medical, Food processing, E-commerce and more.