



LaskAI Web Application

User Manual

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1. Overview

LaskAI: Marine Litter Detector and Reporter is an AI-powered web application designed to support the detection, classification, and reporting of marine litter from images.

Users can upload images of coastal environments, and LaskAI automatically analyses them to identify visible litter items, classify them according to a structured marine litter taxonomy, and generate an easy-to-understand report of the detected items.

At the core of LaskAI is a dedicated machine-learning model developed specifically for marine litter recognition. The [classification framework](#) follows a hierarchical approach based on material, use/function, and specific litter type, enabling consistent and detailed reporting across different coastal environments.

LaskAI was funded by the [A.C. Laskaridis Charitable Foundation](#) and developed by [Scidrones](#), with the aim of making advanced artificial intelligence tools for marine litter monitoring more accessible and easier to use.

By transforming ordinary images into structured information, LaskAI provides a simple bridge between citizen observations, artificial intelligence, and marine litter monitoring, supporting a better understanding of the presence and composition of litter in our coastal environments.

2. User Registration

Users can **register for free** and enjoy extra benefits such as:

Upload Limits

User Type	Access
Guest	Up to 10 images per upload, up to 5 uploads per hour.
Registered user	Up to 100 images per upload. Unlimited uploads.

Archive Access

User Type	Access
Guest	Access to the uploads of the current session.
Registered user	Access to uploads linked to the account across all sessions.

Registration Steps

The sign up process is done through the log in/sign up page on the navigation bar.

You must fill out user_name, email and password. If you have made any uploads as guest, you will be given a choice to transfer them or not to your profile. Then you will be redirected to an email verification page, where you must enter the 6-digit password sent to your email. The code must be used within 5 minutes and if wrong code is used more than 5 times, the signup process is terminated.

If all the steps are done correctly, you will be redirected to your profile page and stay logged in while your new [session](#) is valid. User sessions last 24 hours, so upon expiry you must log in again.

You can also delete your account, but this action is permanent and cannot be reversed.

3. Sessions

Sessions are created when a user signs in or when a guest makes an upload. All session stay valid for 24 hours. Upon expiration of a session, a user will be notified and be treated as guest until he logs in again and a guest will create a new session without noticing.

4. Supported image files

LaskAI accepts JPG/JPEG and PNG image files. Use clear images where litter is visible and not heavily blurred.

5. Upload steps

Select one or more images from your device. Review the chosen files. You can remove any images you mistakenly uploaded one by one or altogether.

Optionally choose a [confidence threshold](#). You can set a global threshold for all images or set it for any image individually. The default is 20%, a range of 10% to 30% is a useful starting point for most work, but for high resolution images where all the litter objects are clearly visible you can exceed 50%.

Then select Analyze images and you will be redirected to the [results page](#).

6. Confidence Threshold

Confidence is a percentage value returned by the model for each detected litter object, indicating how certain the model is for that detection.

Confidence Threshold determines the minimum confidence of the objects the model returns in an image.

7. Results Page

The result page is the page you are redirected to when making an upload for the first time and when clicking an upload in the archive. It contains a main panel, an image panel and a detected litter panel.

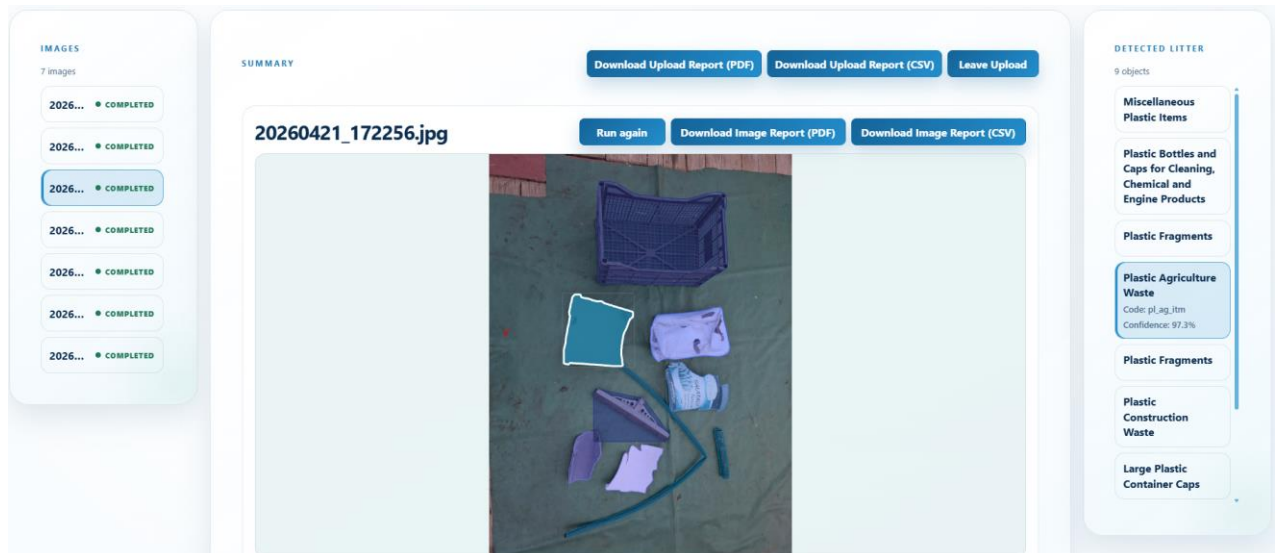


Image Panel

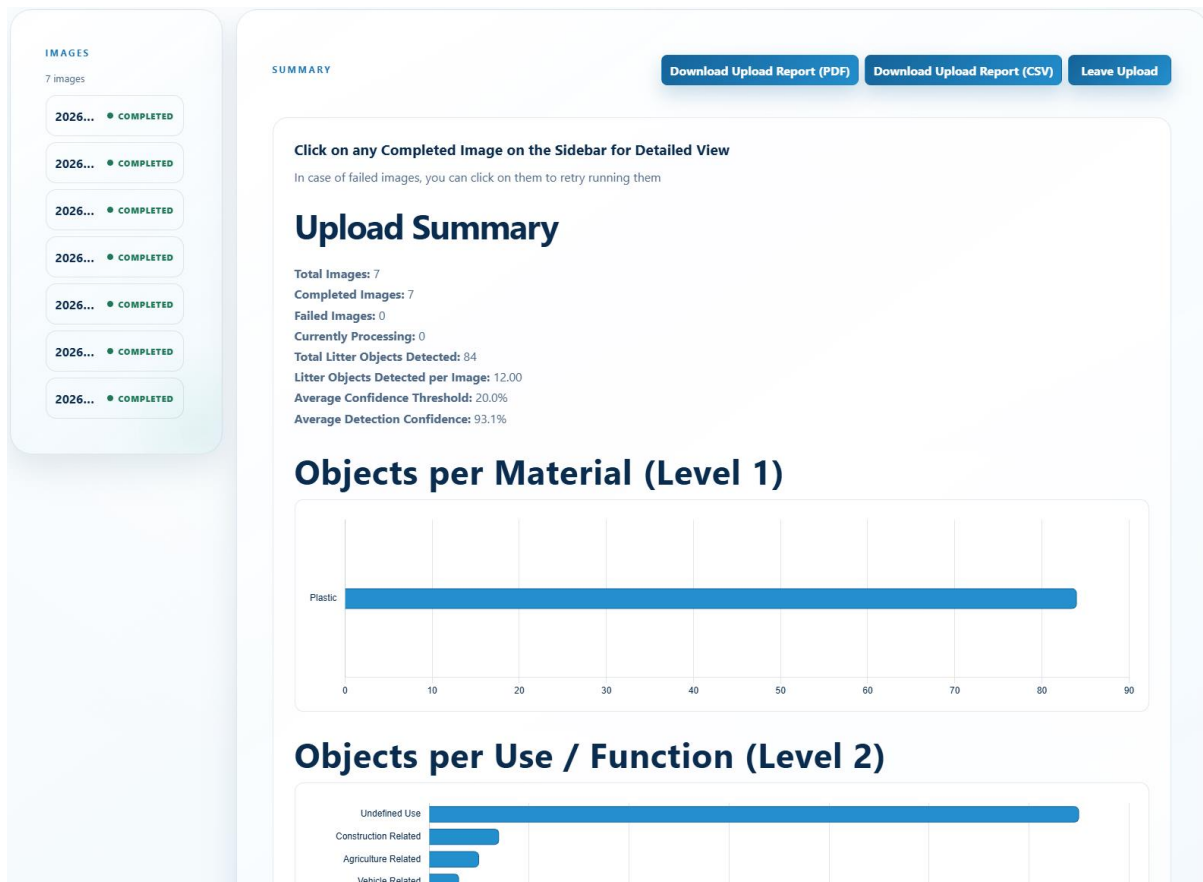
The image panel displays a list of all the images of the upload as clickable buttons. Images under process are not clickable. When clicking completed images, they are displayed on the main panel. When clicking failed images, they are immediately rerun.

Litter Panel

When an image is selected, the litter panel appears displaying a list of the litter of the image with their name and specific code as clickable buttons.

Main Summary Panel

When no image is selected from the image panel, the main panel shows general statistics regarding the upload (material, use/function and specific type charts).



When an image is selected, the main panel shows the image with all the litter rendered ([like its showcased on the image of the previous page](#)) and upon clicking an object either on the image or in the litter panel, it is highlighted on the image. Also beneath the image, the same charts are displayed, but for the litter of that specific image only. Above the image there is a rerun button that allows running the image again on a different confidence threshold. There also buttons to download the [image/upload reports](#).

8. Image Analysis Status

Image status is displayed next to every image on the [image panel](#), these are the steps the image analysis goes through:

Status	What it means
Waiting	The image is still waiting in queue
Processing	The image is being processed by the LaskAI
Analyzing	The results of the LaskAI are being analyzed and turned into litter objects
Rendering	The litter objects are being painted over the image.
Completed	Analysis process has successfully completed.
Failed	Some point in the analysis Failed or timed out.

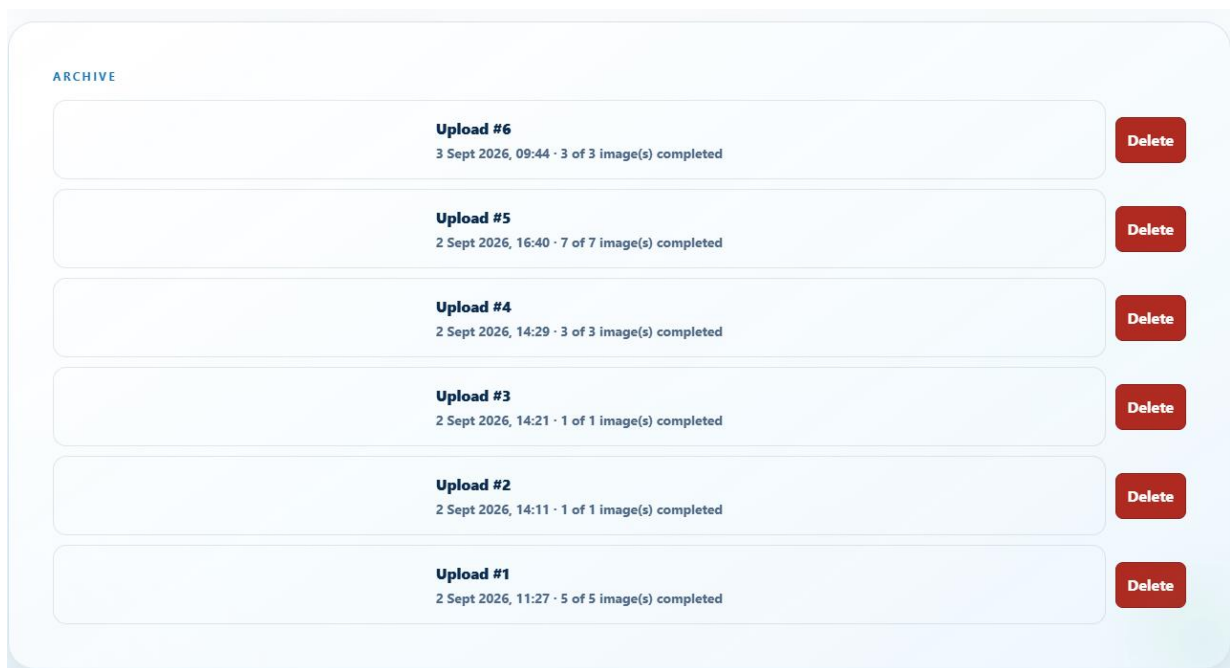
9. Reports

You can download PDF and CSV reports that are created for all completed uploads and all completed images, containing general statistics, tables and charts for the Materials, Use/Function and specific types of all detected litter objects.

10. Archive

The archive page displays all the uploads of the current session for guests and all the uploads across all sessions for registered users. Signed users can also create names for every upload and search uploads by name and/or date. By clicking on an upload, you can access the [results page](#) of the upload and review the images again, rerun images with different [confidence threshold](#) and download the upload/image reports. You can also **permanently delete** any uploads you don't want, but note that this action cannot be undone.

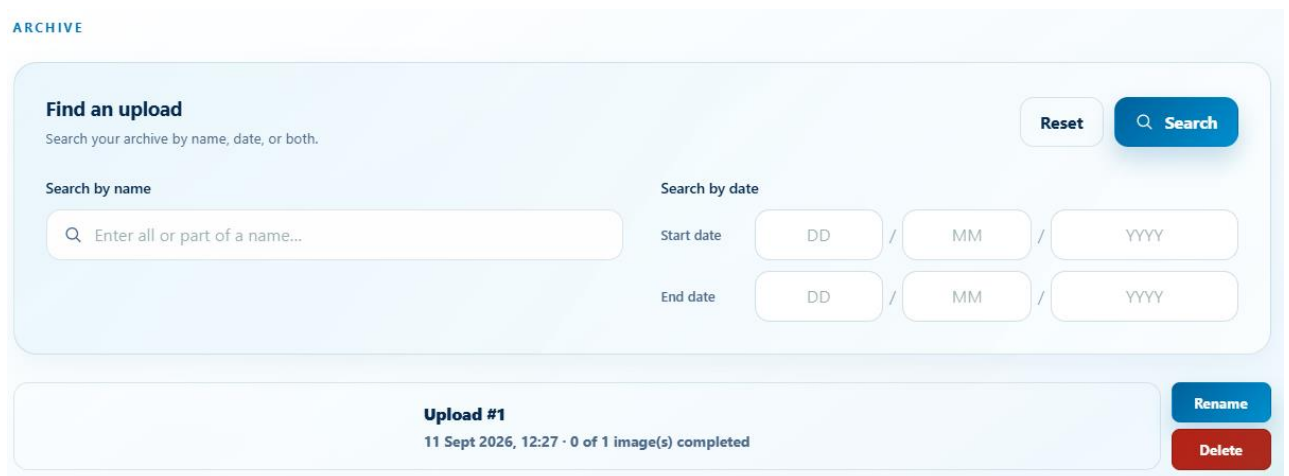
Guest view:



ARCHIVE

Upload #6 3 Sept 2026, 09:44 · 3 of 3 image(s) completed	Delete
Upload #5 2 Sept 2026, 16:40 · 7 of 7 image(s) completed	Delete
Upload #4 2 Sept 2026, 14:29 · 3 of 3 image(s) completed	Delete
Upload #3 2 Sept 2026, 14:21 · 1 of 1 image(s) completed	Delete
Upload #2 2 Sept 2026, 14:11 · 1 of 1 image(s) completed	Delete
Upload #1 2 Sept 2026, 11:27 · 5 of 5 image(s) completed	Delete

Registered User view:



ARCHIVE

Find an upload
Search your archive by name, date, or both.

Reset Search

Search by name

Search by date

Start date DD / MM / YYYY

End date DD / MM / YYYY

Upload #1 11 Sept 2026, 12:27 · 0 of 1 image(s) completed	Rename	Delete
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11. Taxonomy

LaskAI organizes detected litter using a three-level hierarchy.

- Level 1 - Material: the broad material category containing: plastic, metal, paper, rubber, glass/ceramics, wood or textile.
- Level 2 - Use or function: the purpose or activity associated with the item, such as fishing, food consumption, hygiene, recreation etc.
- Level 3 - 59 specific litter types.

