

AI Annotation Tool - Web Application

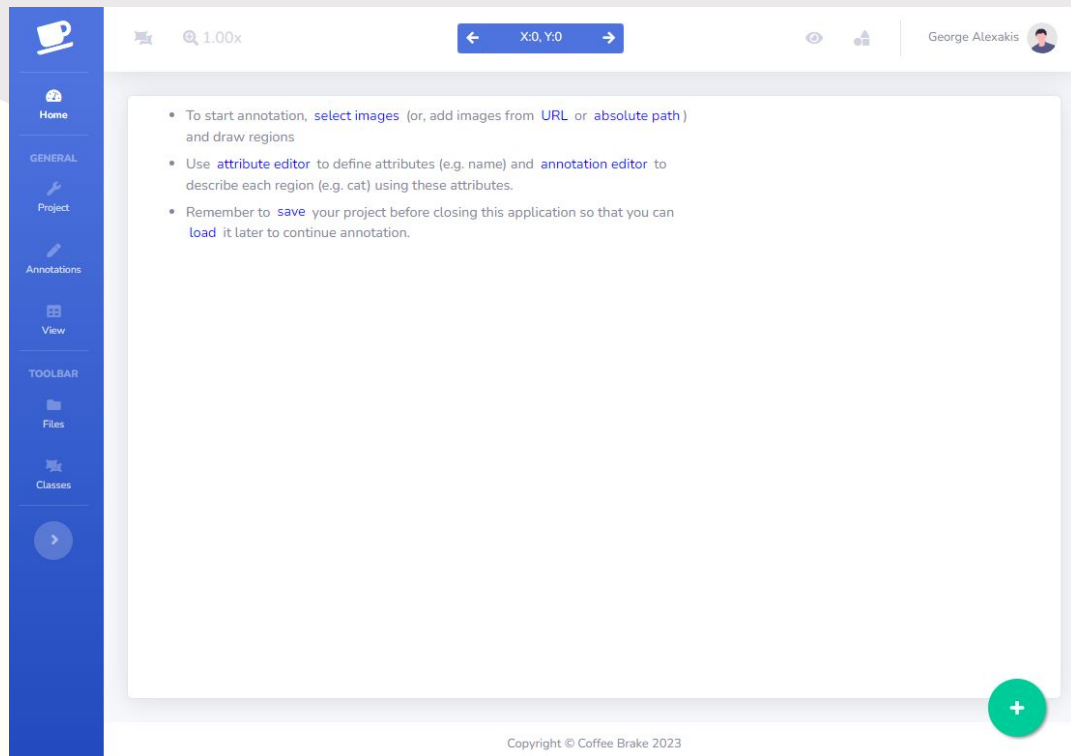
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Overview

- Introduction
- Problem and Solution
- Features
- Demo
- Future Development
- Questions

Introduction

- Coffee Break is an AI image annotation tool.
- Deep Learning integrated web services.
- Smart UI elements.
- Focus on segmentation.
- Mobile ready.
- Minimize the annotation time.



Problem and Solution

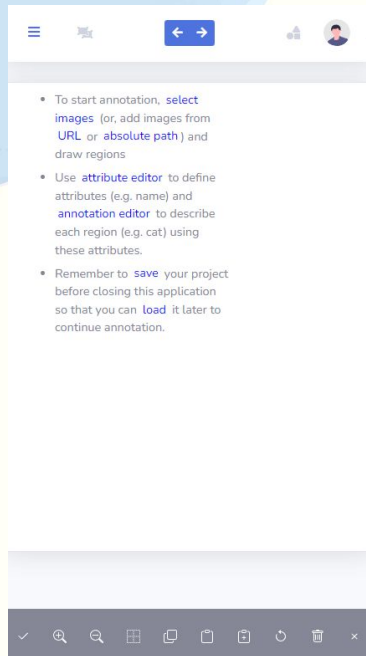
- Image annotation is a process that involves labeling **objects** or **regions** of interest within an image.
- Image annotation has many **challenges** and **complexities** associated with **accurately** and **consistently** annotating images.
- Use of pre-trained Deep Learning models:
 - Segment Anything Model (SAM) from Meta AI (2023).
 - Mask R-CNN for Object Detection and Segmentation (2017).



Features (1/2)

- Integration of Deep Learning models (SAM, MaskRCNN, etc) as external services.
- Mobile friendly application.
- Multiple annotation shapes (rectangular, circular, elliptical, polygon).
- It supports many formats for export/import data (CSV, JSON, COCO).
- Manipulated document elements for cleaner working environment.
- Time efficient compared with the traditional tools (no AI integrated).

Features (2/2)



Mobile top toolbar

Mobile ready bottom toolbar

Enable/disable SAM tool

Magnifier and drag tool

Annotation editor

Shape selection

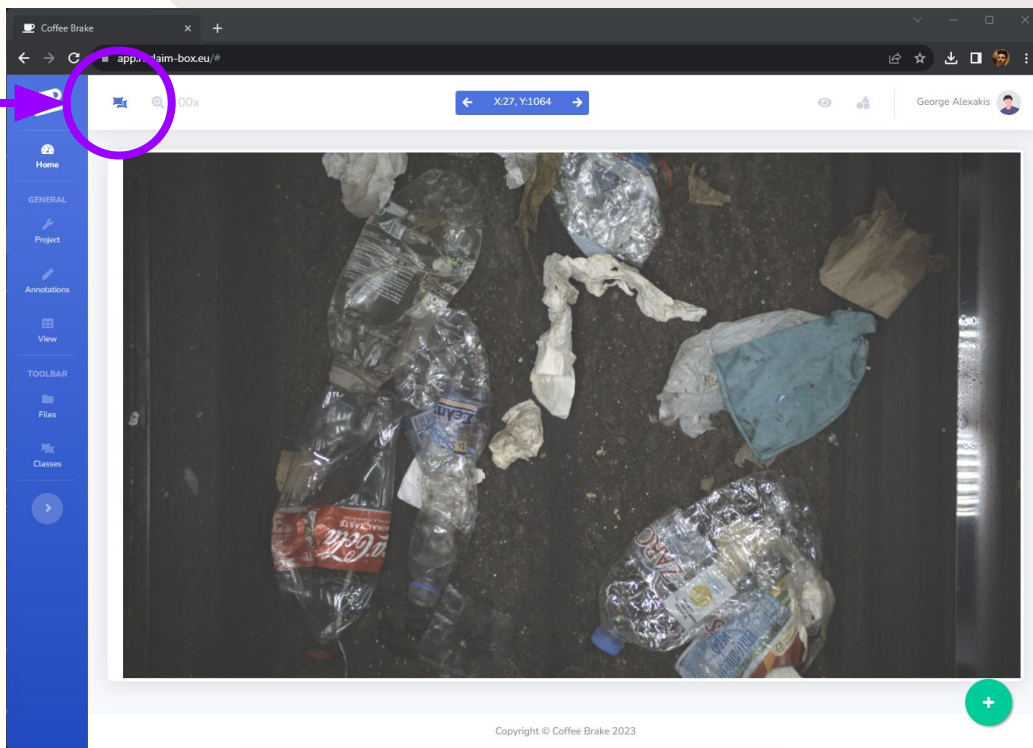


Image navigator and pixel information

Show/hide right toolbar

Main toolbar with multiple functionalities (import, export, attributes editor, image importer, etc)

Demo



Demo

Step 3: Wait the process to be completed.

The screenshot shows a web browser window with the URL `app.reclaim-box.eu/#`. The interface includes a blue sidebar with navigation options: Home, GENERAL (Project, Annotations, View), and TOOLBAR (Files, Classes). The main content area displays a photograph of various pieces of trash, including plastic bottles and paper. A red horizontal line is drawn across the top of the image. A blue tooltip box is positioned at the bottom right of the image, containing the text "Draw Rectangle" and "1:50:14 PM". Below the image, the text "Copyright © Coffee Brake 2023" is visible.

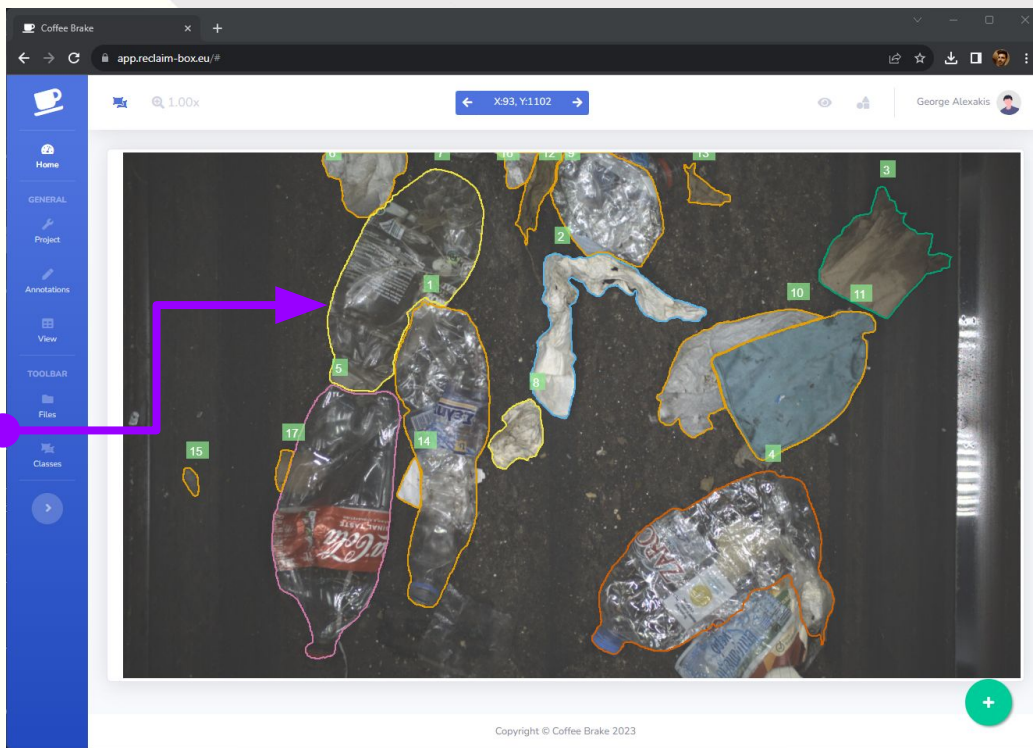
Demo

Step 4: The object has annotated successfully and the user can inspect the final results.

The screenshot displays the web application interface for 'app.reclaim-box.eu'. The browser's address bar shows the URL and a zoom level of 1.00x. The user's name, 'George Alexakis', is visible in the top right corner. The main content area features a dark image of various pieces of trash, including plastic bottles and crumpled paper. A specific piece of green trash is highlighted with a white, irregular polygonal outline, indicating a successful object annotation. A small green square marker is positioned at the top of this outline. On the left side, a blue sidebar contains navigation options: Home, GENERAL (Project, Annotations, View), TOOLBAR, and Cases. A purple arrow points from the text box on the left to the annotated green trash. At the bottom right, a blue tooltip box contains the text: 'Shape 1:50:47 PM' and 'Press single click and drag mouse to draw rect region'. The footer of the application reads 'Copyright © Coffee Brake 2023'.

Demo

User can annotate multiple object just by selecting the region of the object.



Live Demo

<https://app.reclaim-box.eu/>

Statistics

- Annotation process time:
 - SAM enabled: approximately 90 seconds.
 - SAM disabled: approximately 6 to 9 minutes (can be reduced after training).
- SAM service execution time: 1.3 seconds to 1.8 seconds

Future Development

- Integration of the MySQL database for the data storage.
- Collaborative annotation.
- Supervised annotation.
- More Deep Learning services deployment.

The background features abstract, organic shapes in blue, yellow, and grey. The blue shape is on the left, the yellow shape is in the center, and the grey shape is on the right.

Questions