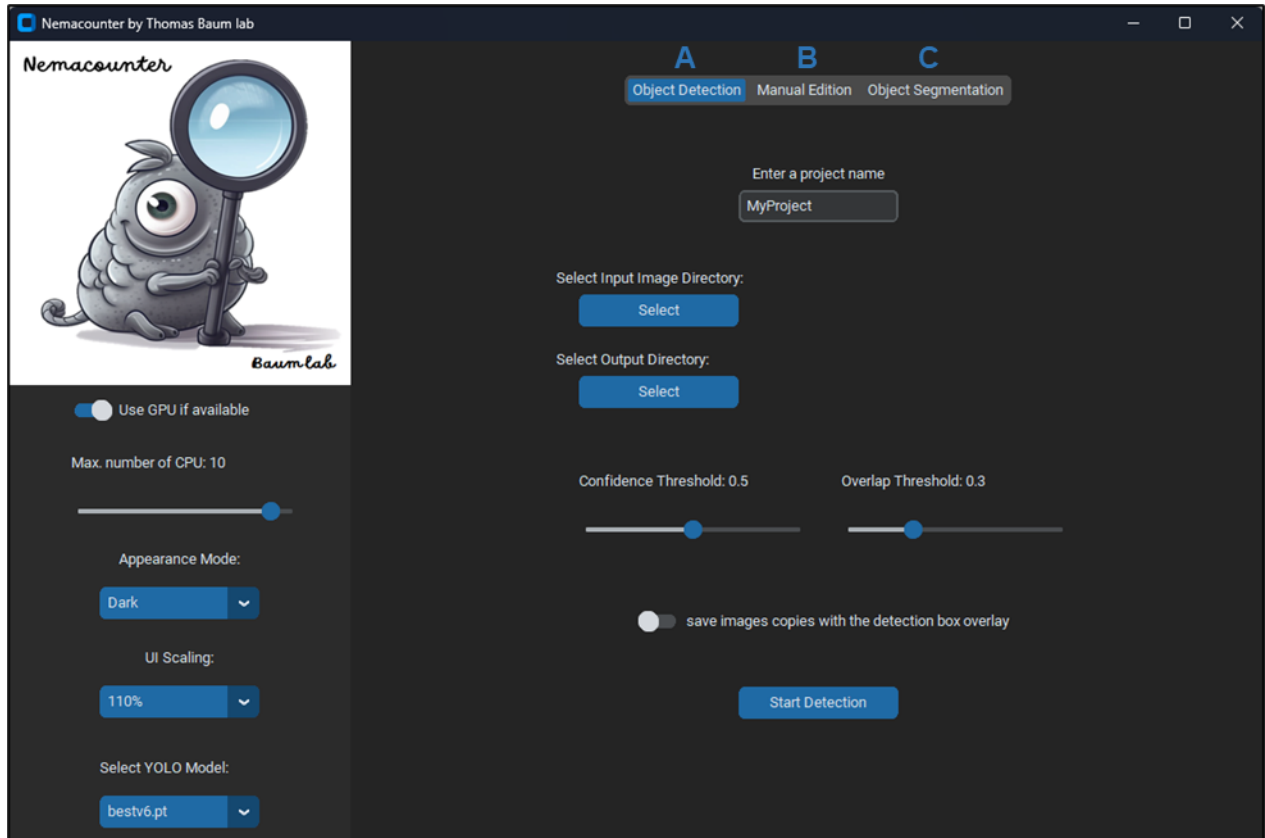


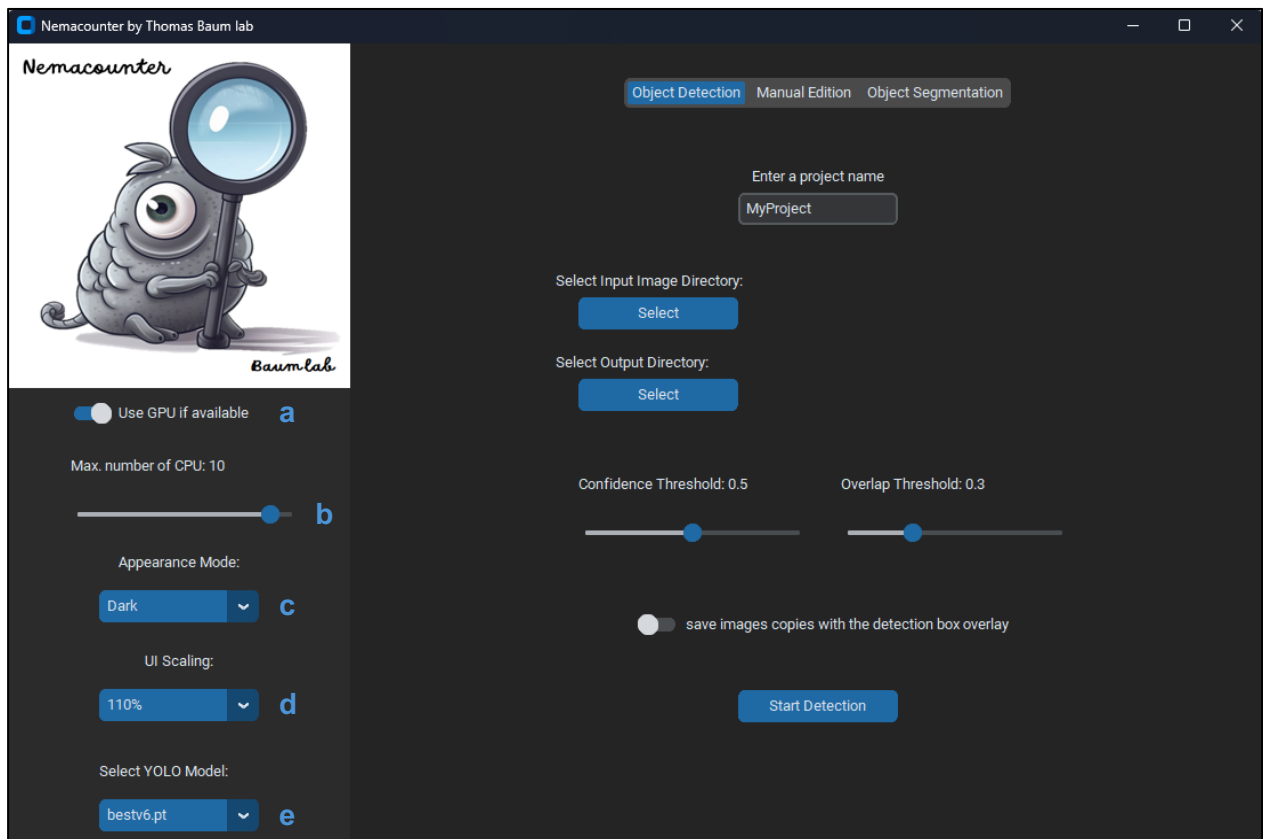
# Nemacounter User Guide

## Overview

Nemacounter is a versatile tool designed for object detection, manual edition, and object segmentation using sequentially YOLOv5 Object Detection, OpenCV library and Segment Anything Model. This guide provides step-by-step instructions on using the software through its three main tabs: Object Detection (A), Manual Edition (B), and Object Segmentation (C).



## Left Sidebar Settings (Applies to All Tabs)



### a. Use GPU if Available

- **Description:** Toggle the use of GPU for processing if available.
- **How to Use:** Click the switch to enable or disable GPU usage.

### b. Max. Number of CPU

- **Description:** Set the maximum number of CPU cores for processing.
- **How to Use:** Drag the slider to adjust the number of CPU cores. The current number of selected cores is displayed above the slider.

### c. Appearance Mode

- **Description:** Change the appearance mode of the software.
- **How to Use:** Click the dropdown menu and select the desired appearance mode (Dark, Light, or System).

### d. UI Scaling

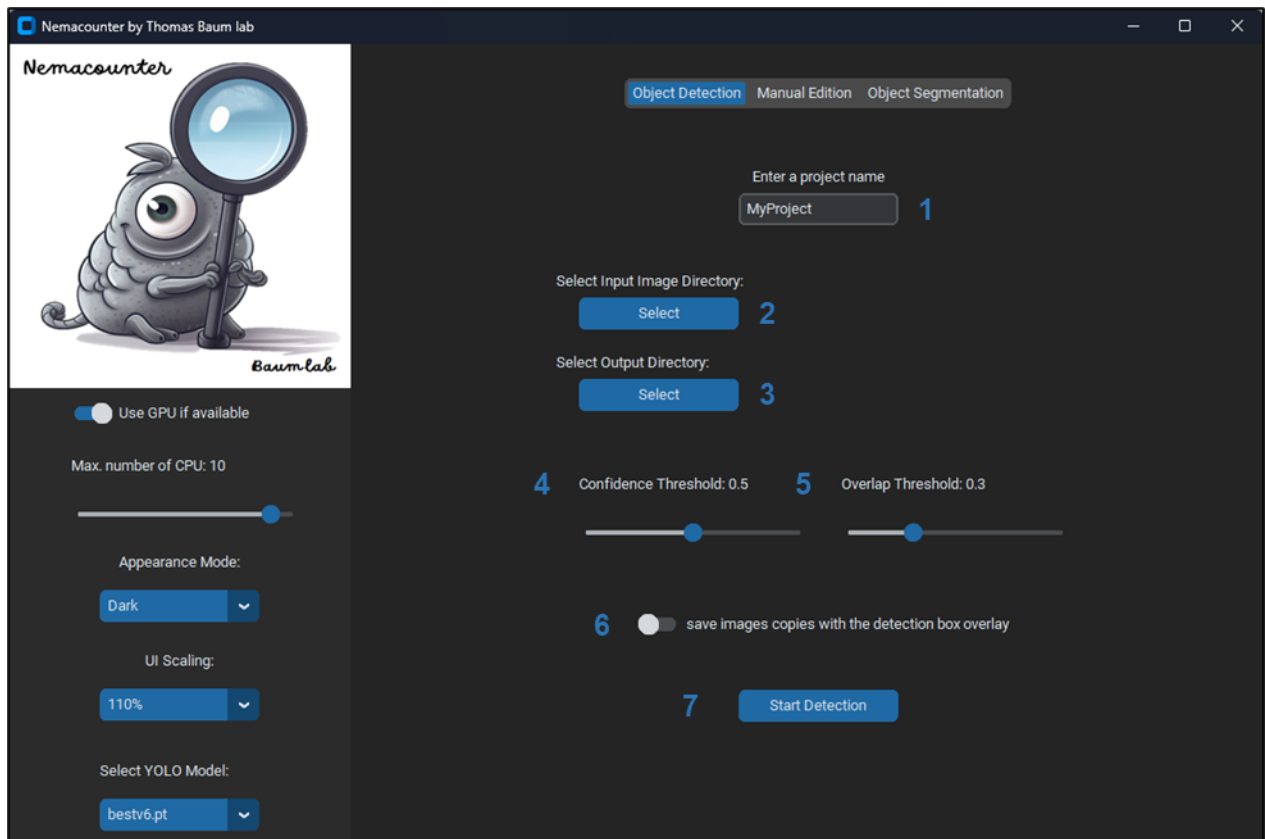
- **Description:** Adjust the scaling of the user interface.
- **How to Use:** Click the dropdown menu and select the desired scaling percentage.

### e. Select YOLO Model

- **Description:** Choose the YOLO model (.pt file) for object detection.
- **How to Use:** Click the dropdown menu and select the desired YOLO model file from the list.

**Note:** If a new model.pt is generated by a user, it can be simply added in the “models” folder inside of the “Nemacounter” folder to be selectable in the dropdown menu.

## Object Detection Tab



### 1. Enter a Project Name

- **Description:** Set the name of your project.
- **How to Use:** Click the text box and type the desired project name.

### 2. Select Input Image Directory

- **Description:** Choose the directory containing the images to be processed.
- **How to Use:** Click the "Select" button and navigate to the desired directory. Click "OK" to confirm.

### 3. Select Output Directory

- **Description:** Choose the directory where the output results will be saved.
- **How to Use:** Click the "Select" button and navigate to the desired directory. Click "OK" to confirm.

### 4. Confidence Threshold

- **Description:** Set the confidence threshold for object detection.
- **How to Use:** Drag the slider to adjust the threshold. The current value is displayed above the slider.

## 5. Overlap Threshold

- **Description:** Set the overlap threshold for object detection.
- **How to Use:** Drag the slider to adjust the threshold. The current value is displayed above the slider.

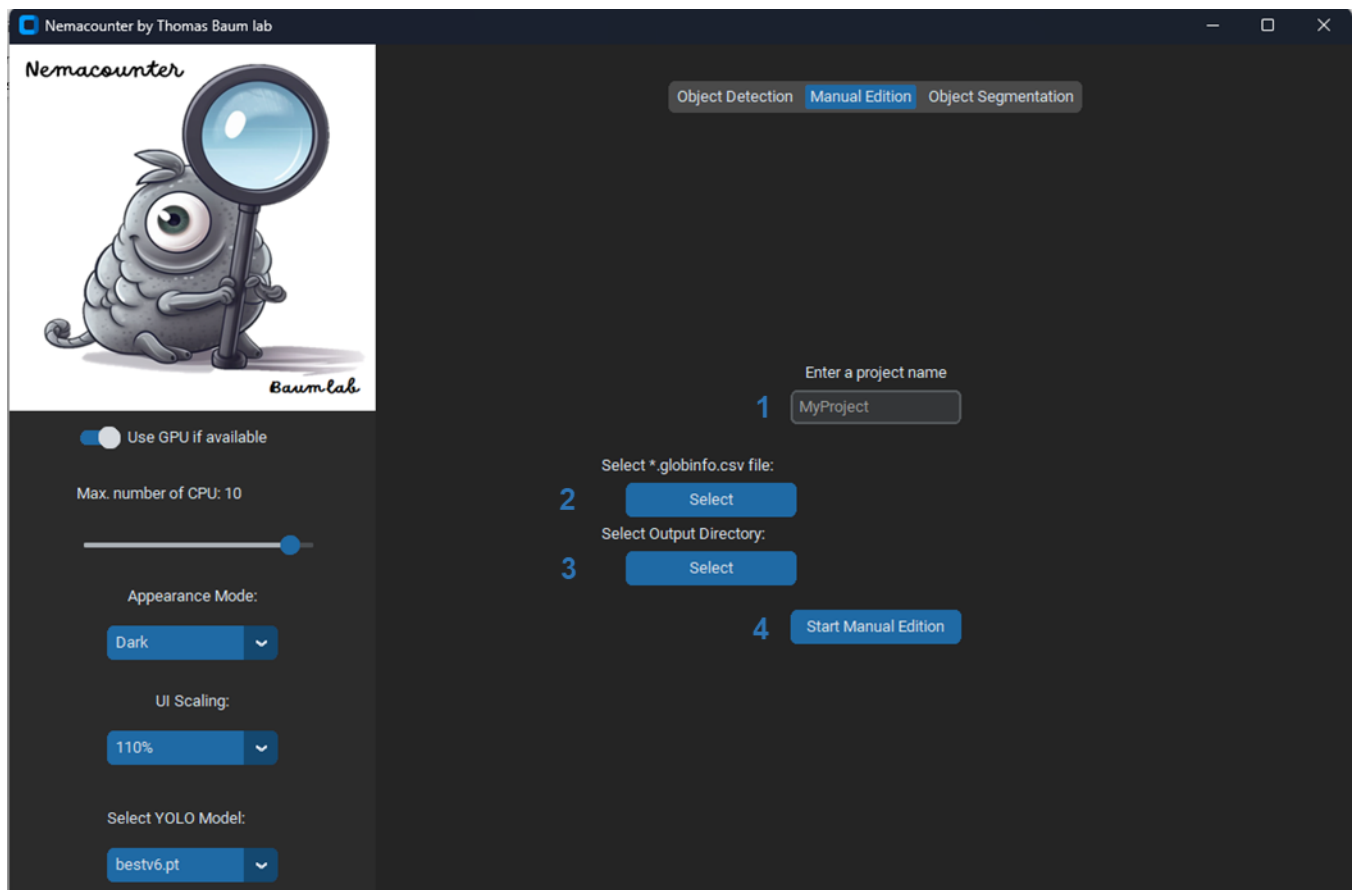
## 6. Save Images with Detection Box Overlay

- **Description:** Enable or disable saving images with detection boxes overlaid.
- **How to Use:** Click the switch to toggle this option on or off.

## 7. Start Detection

- **Description:** Begin the object detection process with the specified settings.
- **How to Use:** Click the "Start Detection" button to start processing.

## Manual Edition Tab



### 1. Enter a Project Name

- **Description:** Set the name of your project.
- **How to Use:** Click the text box and type the desired project name.

## 2. Select \*.globinfo.csv File

- **Description:** Choose the CSV file containing the globinfo data generated by the Object Detection tab.
- **How to Use:** Click the "Select" button and navigate to the desired CSV file. Click "OK" to confirm.

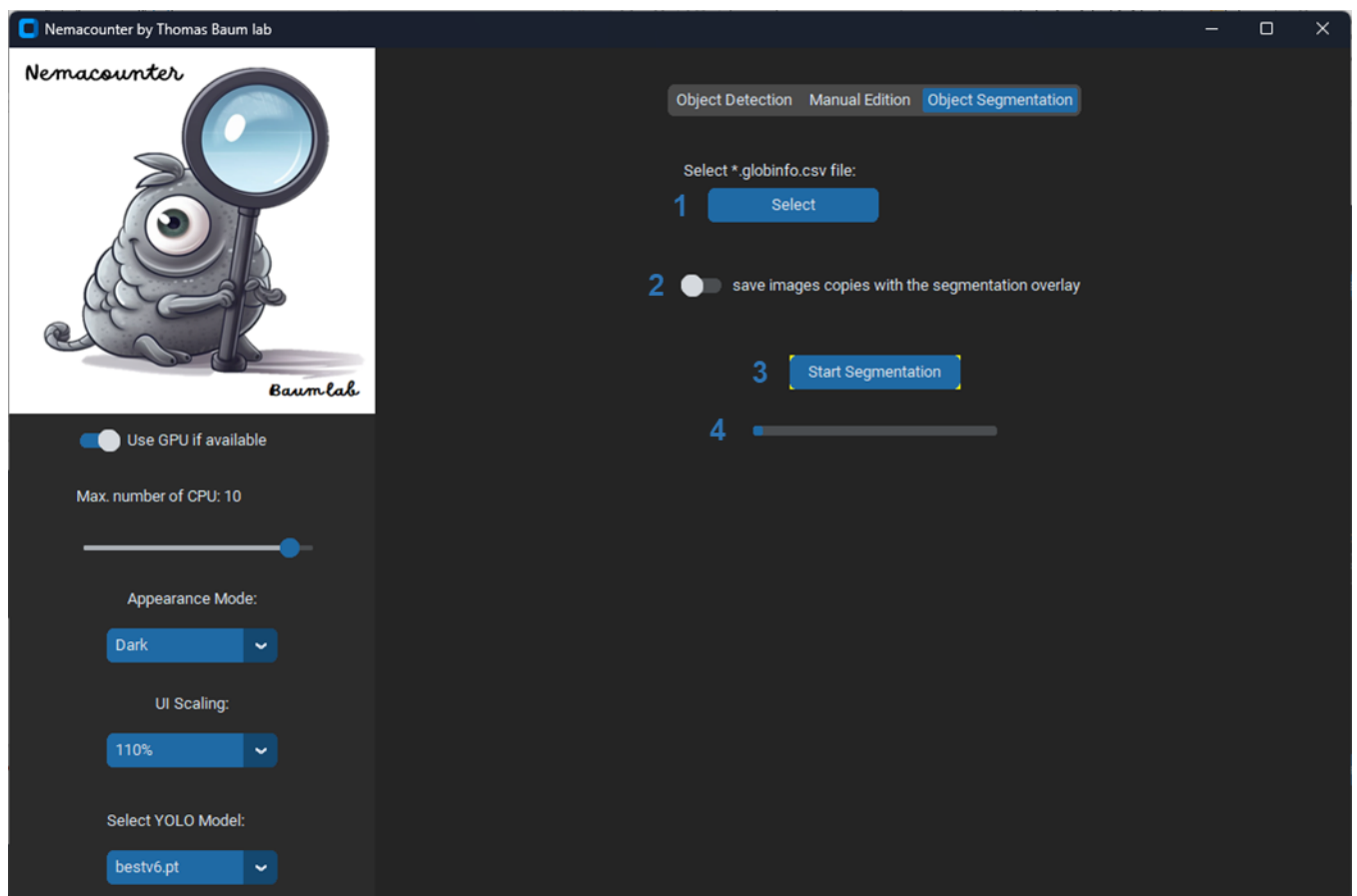
## 3. Select Output Directory

- **Description:** Choose the directory where the edited results will be saved.
- **How to Use:** Click the "Select" button and navigate to the desired directory. Click "OK" to confirm.

## 4. Start Manual Edition

- **Description:** Begin the manual edition process with the specified settings.
- **How to Use:** Click the "Start Manual Edition" button to start processing.

## Object Segmentation Tab



## 1. Select \*.globinfo.csv File

- **Description:** Choose the CSV file containing the globinfo data generated by the Object detection tab or the Manual Edition tab.
- **How to Use:** Click the "Select" button and navigate to the desired CSV file. Click "OK" to confirm.

## 2. Save Images with Segmentation Overlay

- **Description:** Enable or disable saving images with segmentation overlays.
- **How to Use:** Click the switch to toggle this option on or off.

## 3. Start Segmentation

- **Description:** Begin the object segmentation process with the specified settings.
- **How to Use:** Click the "Start Segmentation" button to start processing.

## 4. Progress Bar

- **Description:** Displays the progress of the segmentation process.
  - **How to Use:** Monitor the progress bar to see the current progress of the segmentation.
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