

```
| final_masks = []
| 
| for m in sorted(candidates, key=lambda x: x["area"], reverse=True):
|     keep = True
|     for fm in final_masks:
|         # suppress duplicates
|         if iou(m["segmentation"], fm["segmentation"]) > 0.6:
|             keep = False
|             break
| 
|         # suppress contained masks (head/body duplicates)
|         if containment(m["segmentation"], fm["segmentation"]) > 0.8:
|             keep = False
|             break
| 
|     if keep:
|         final_masks.append(m)
| 
| print("Final screw count:", len(final_masks))
| 
| ...
| Final screw count: 42
```

Final Screw Count after filtering and AI Model (SAM)

```
[45] ground_truth = 43
[45] predicted = len(final_masks)    # from AI model
[45]
[45] accuracy = 1 - abs(predicted - ground_truth) / ground_truth
[45] print(f"Accuracy: {accuracy * 100:.2f}%")
[45]
[45] ...
[45] Accuracy: 97.67%
```

Accuracy of 97.67 of img1_43_nosy.jpg