

```
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] ✓ Os
ground_truth = 43
predicted = len(final_masks) # from AI model

accuracy = 1 - abs(predicted - ground_truth) / ground_truth
print(f"Accuracy: {accuracy * 100:.2f}%")

*** Accuracy: 97.67%
```

Accuracy of 97.67 of img1_43_nosy.jpg