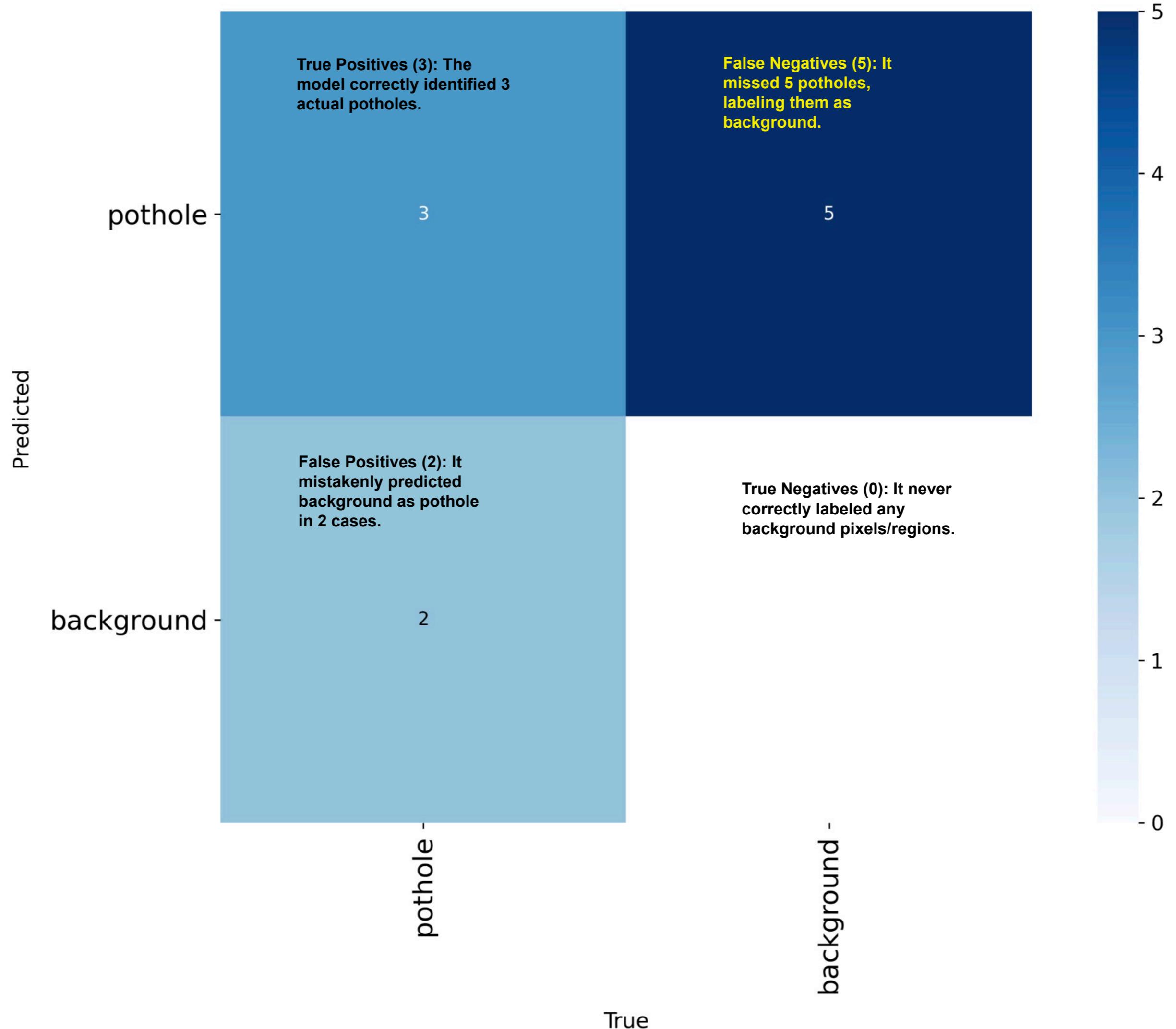
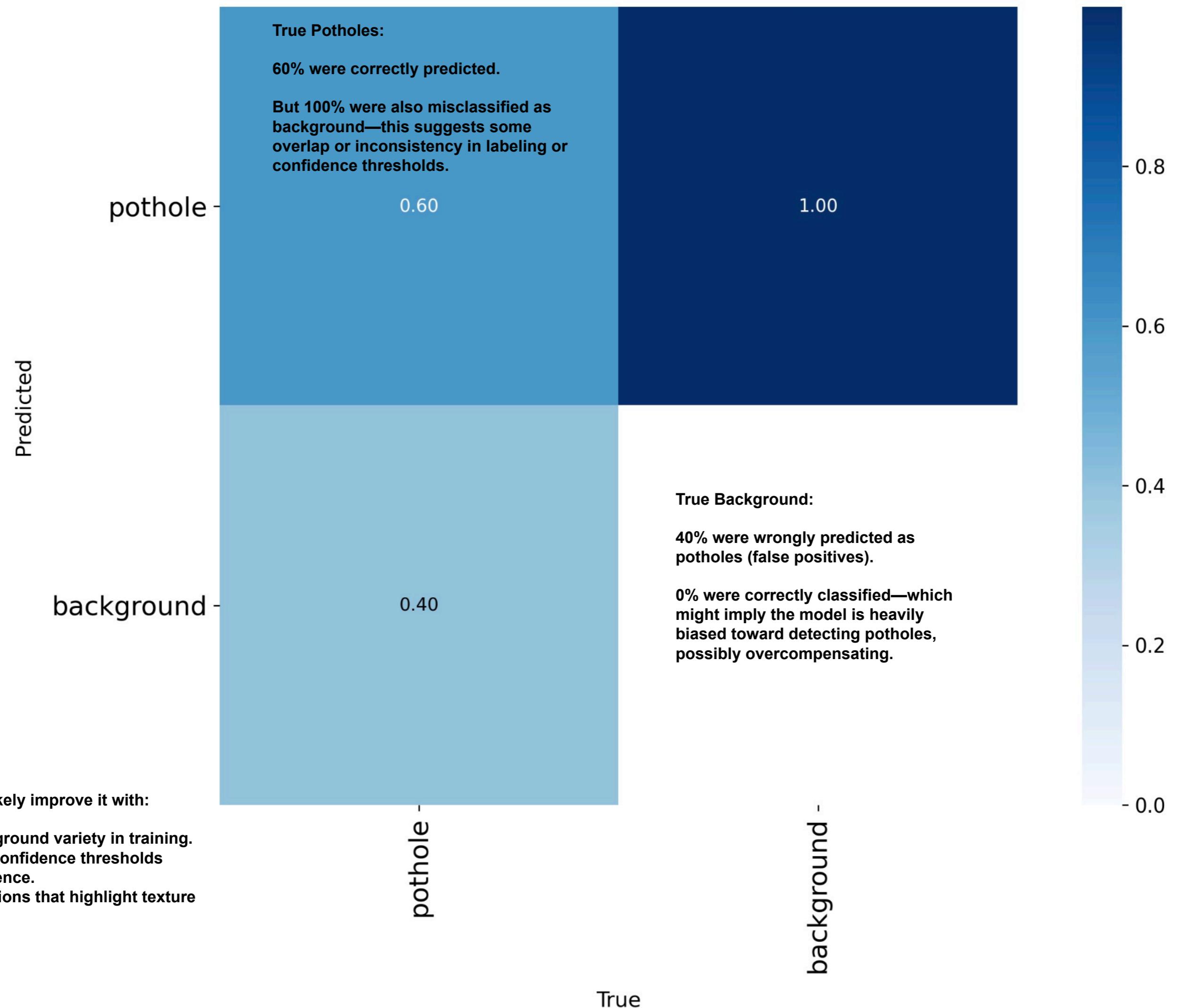
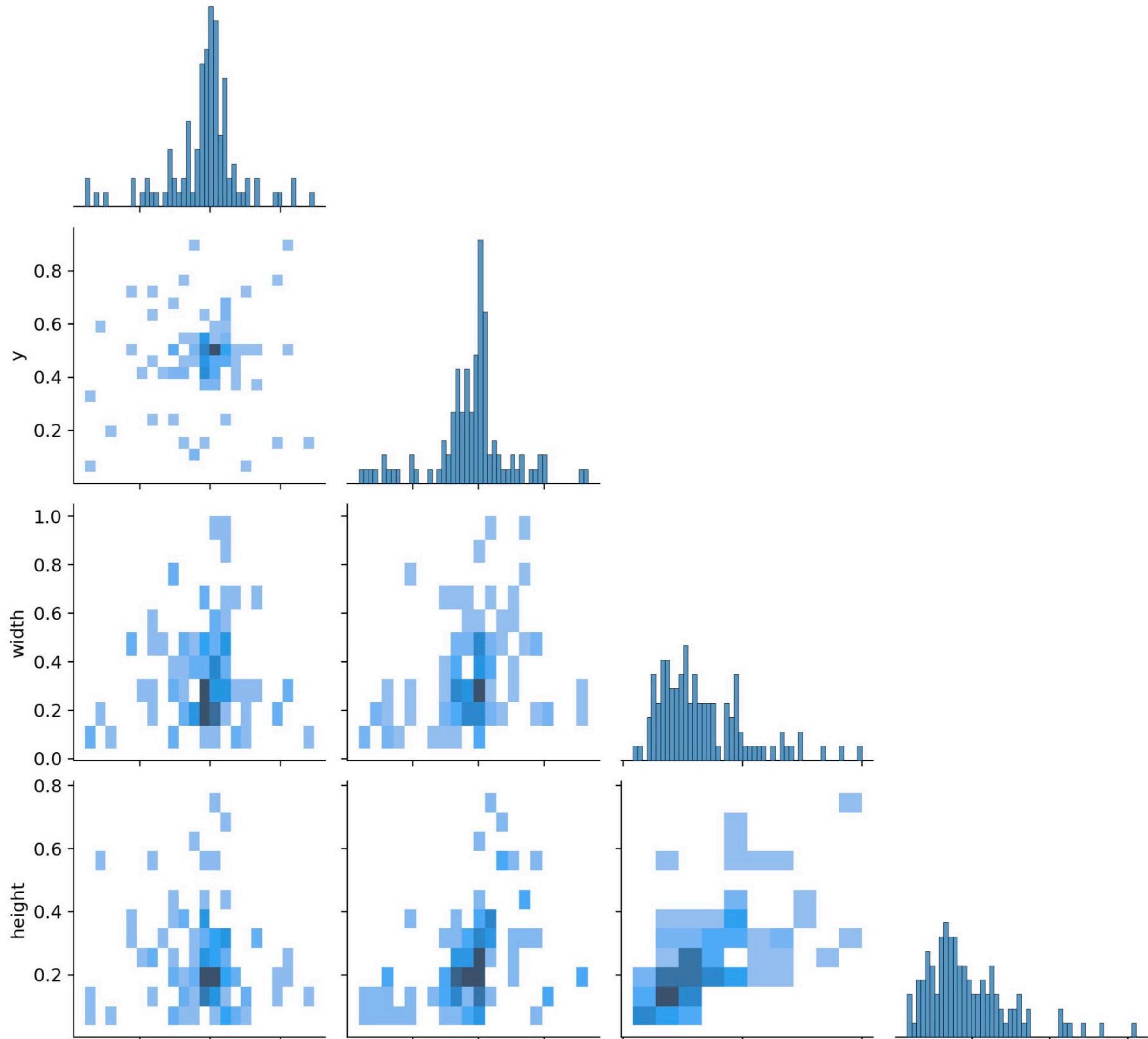


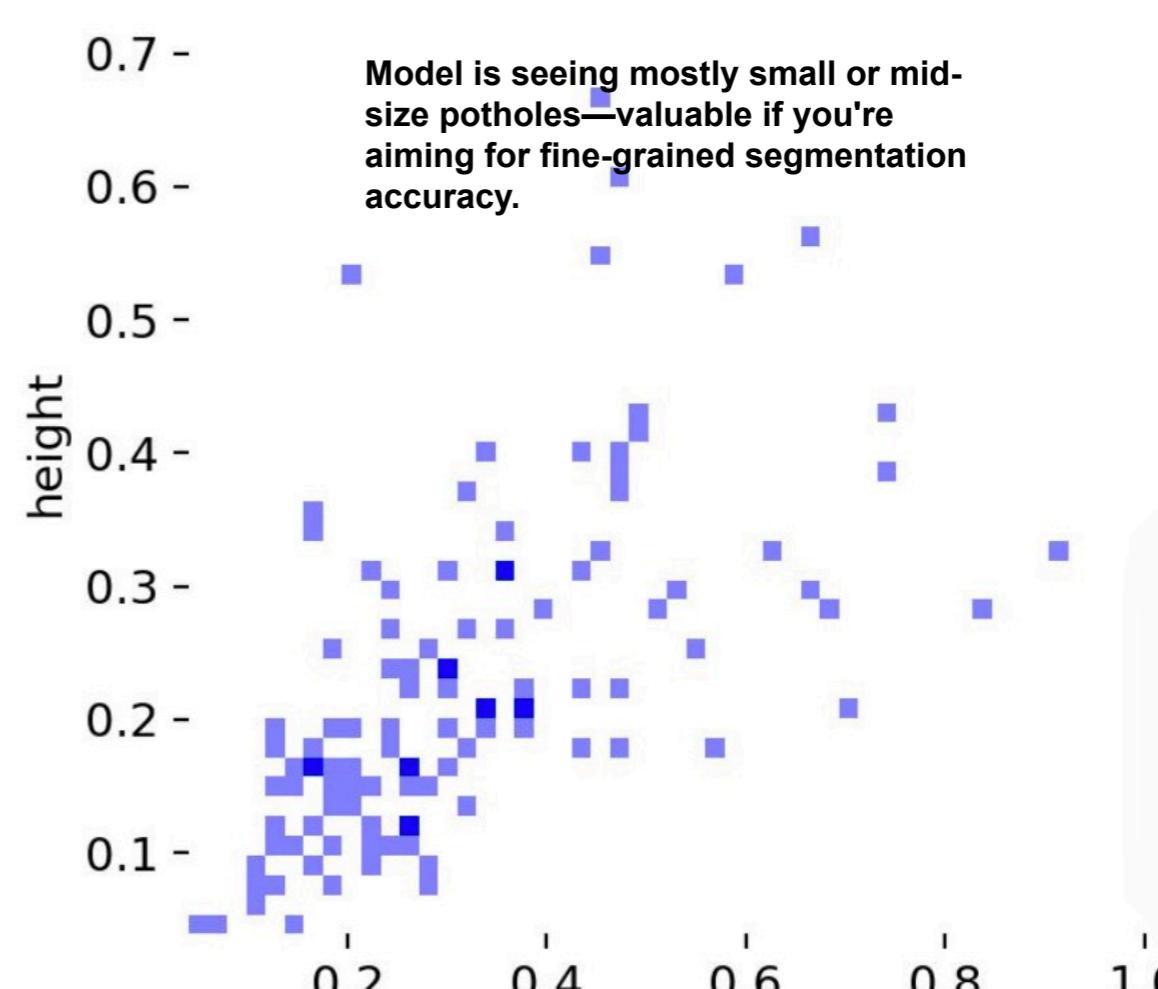
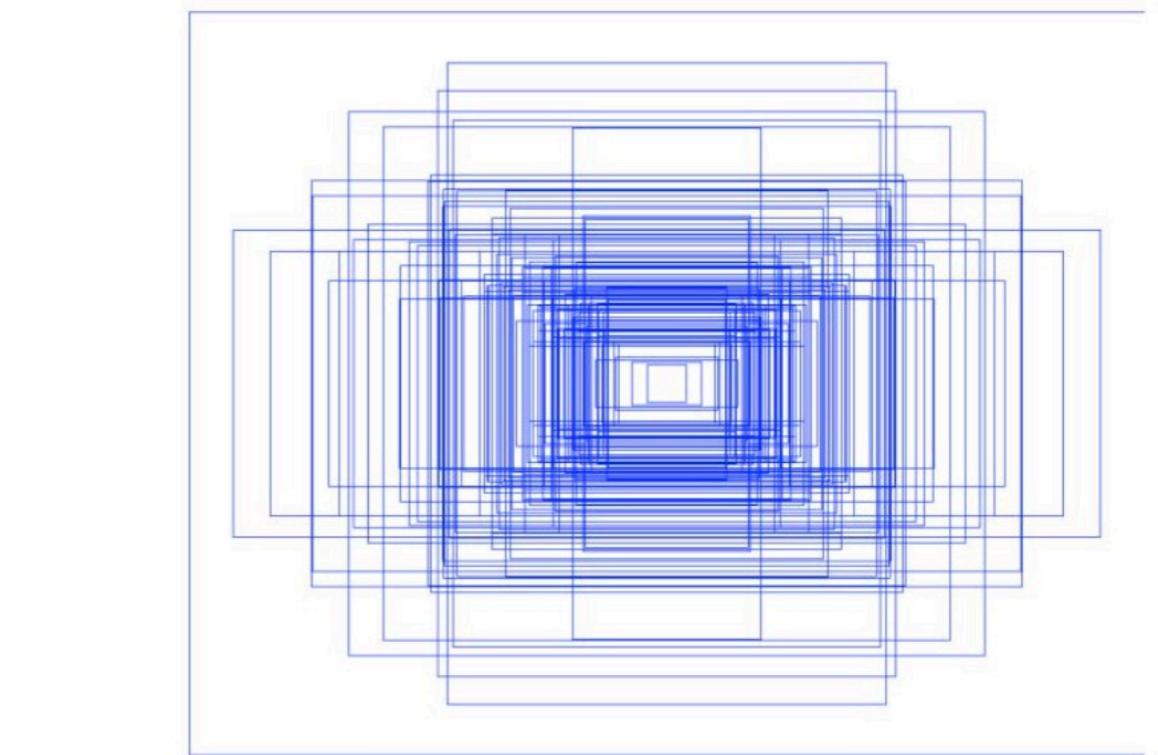
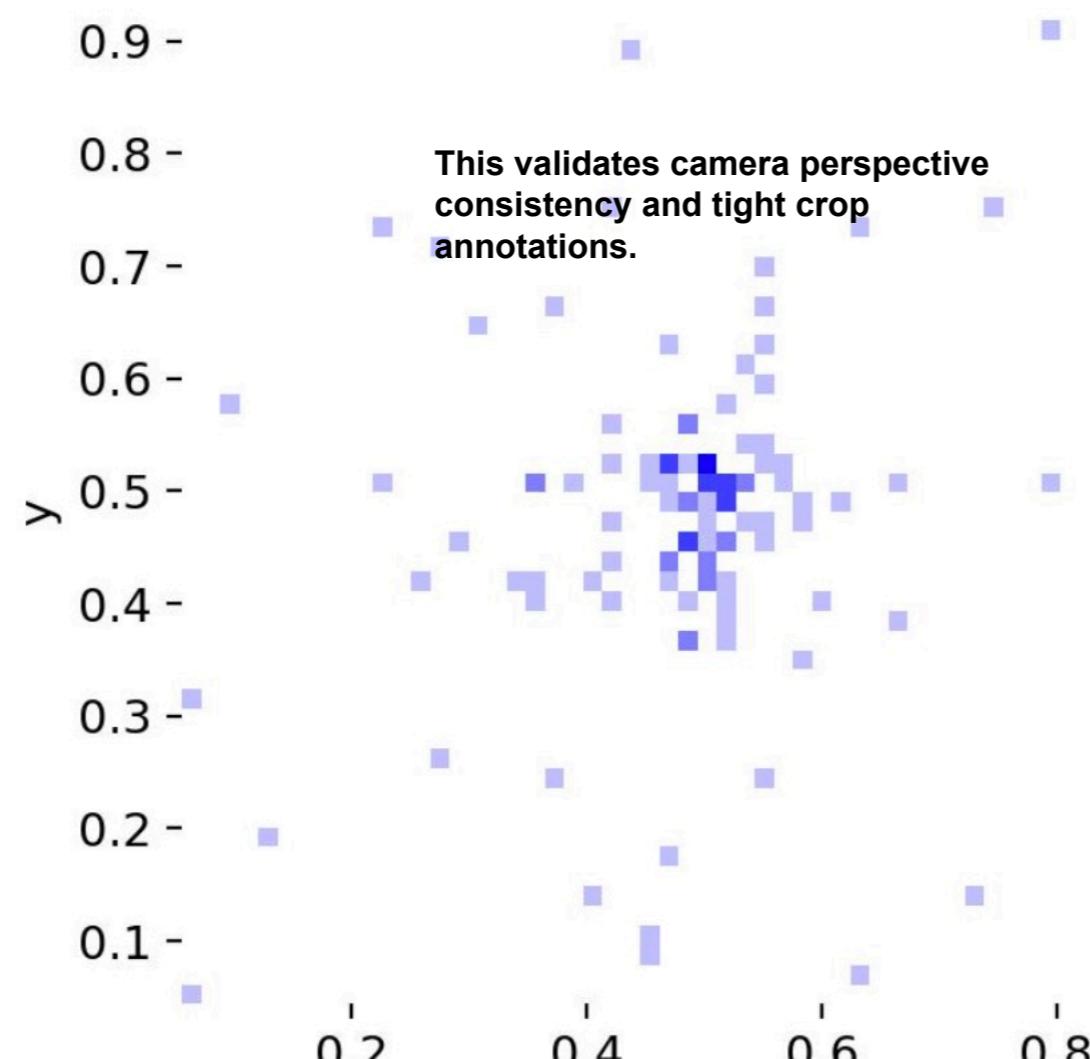
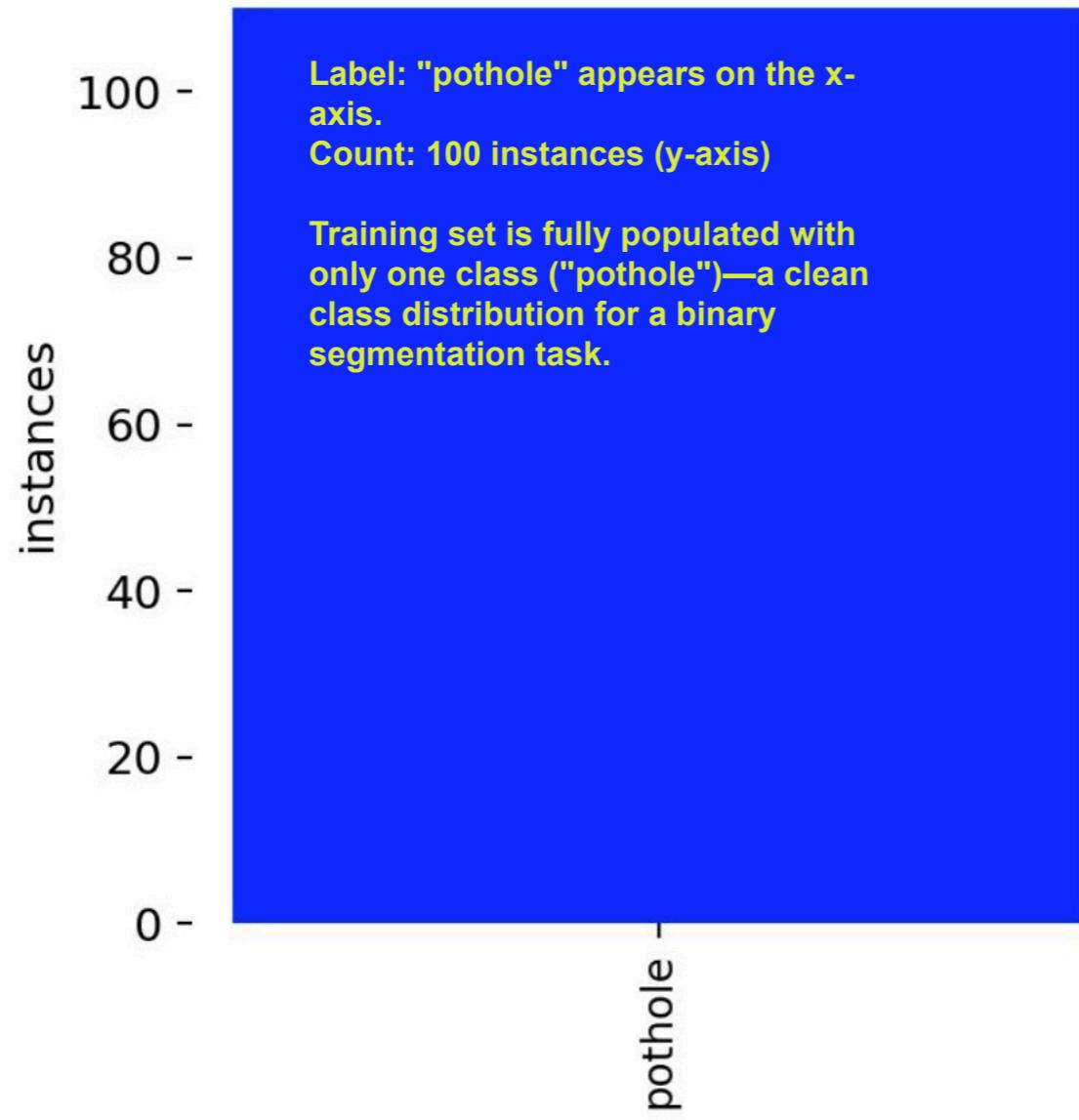
Confusion Matrix



Confusion Matrix Normalized







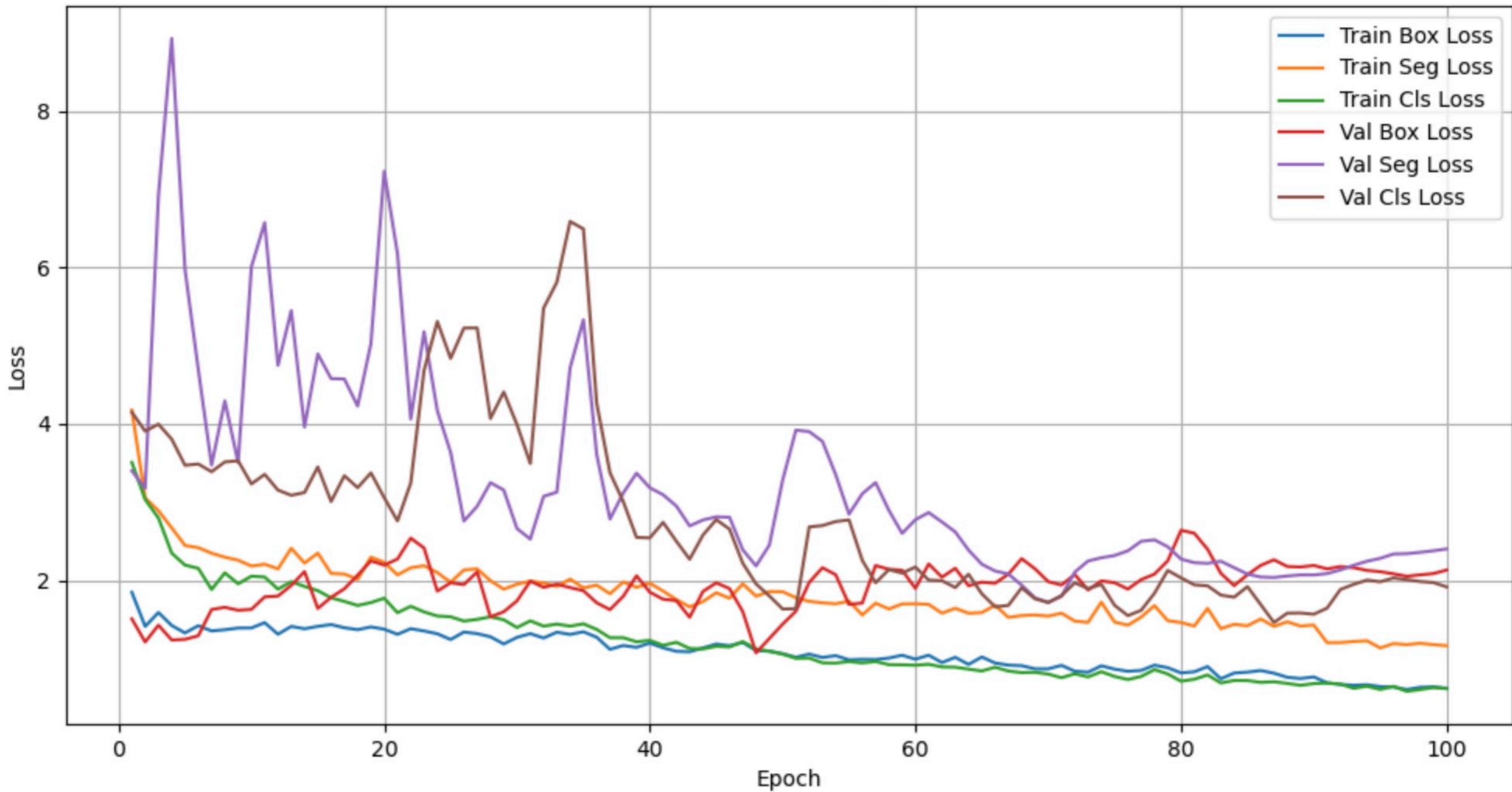
#### Training Stability

All major losses—box, segmentation, and class—declined smoothly across 100 epochs. The model showed strong learning behavior, especially in bounding box accuracy, suggesting a well-prepared dataset and effective convergence.

#### Validation Trend

Validation losses followed training curves early on but flattened later, hinting at mild overfitting. Segmentation loss could benefit from more background variety or size-balanced masks to refine model generalization.

Loss Metrics Over Epochs



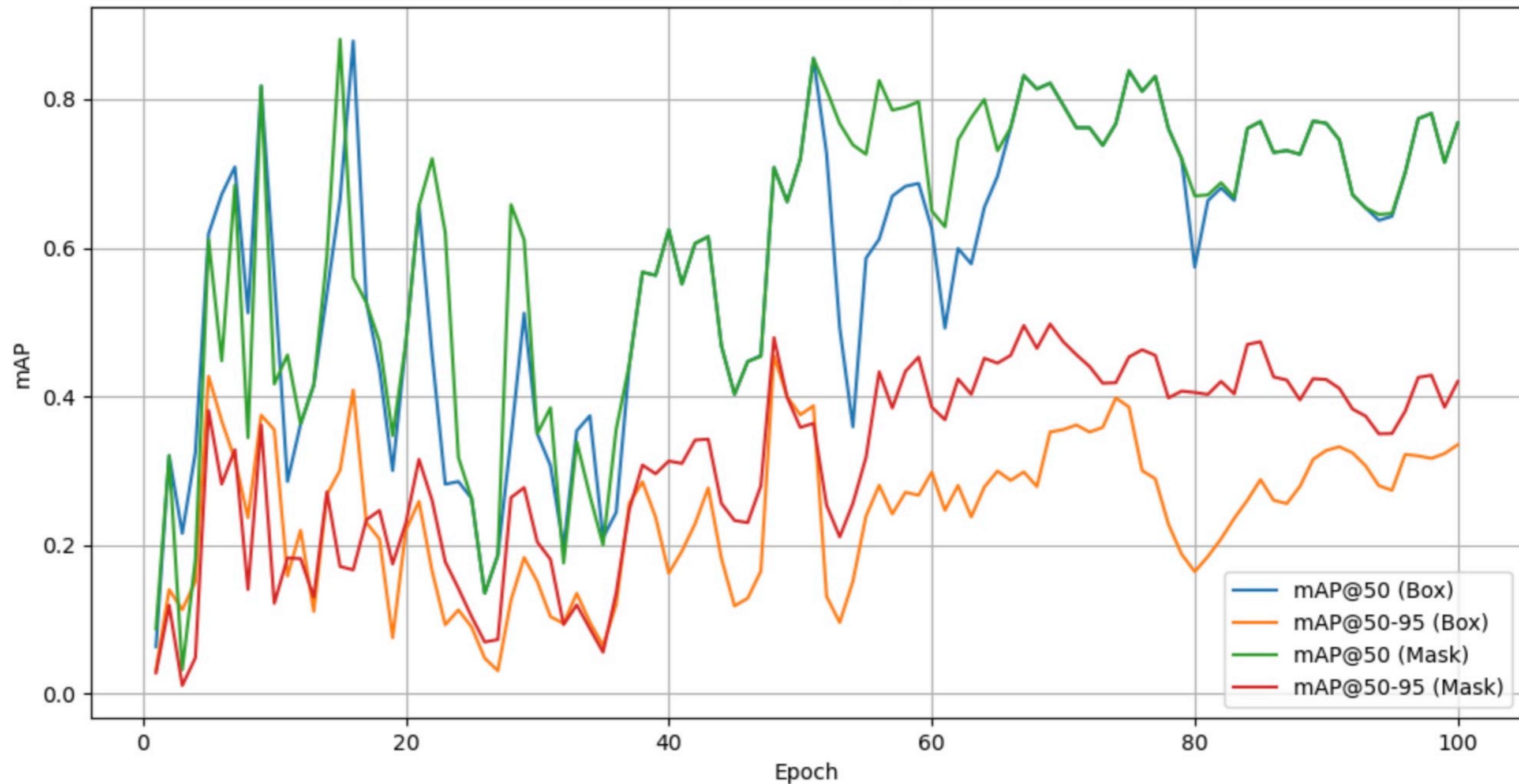
#### Object Detection

Performance mAP@50 (Box) peaked at 0.70 with a steady learning curve, showing accurate and consistent bounding box predictions. Lower mAP@50-95 suggests room to improve precision across IoU thresholds

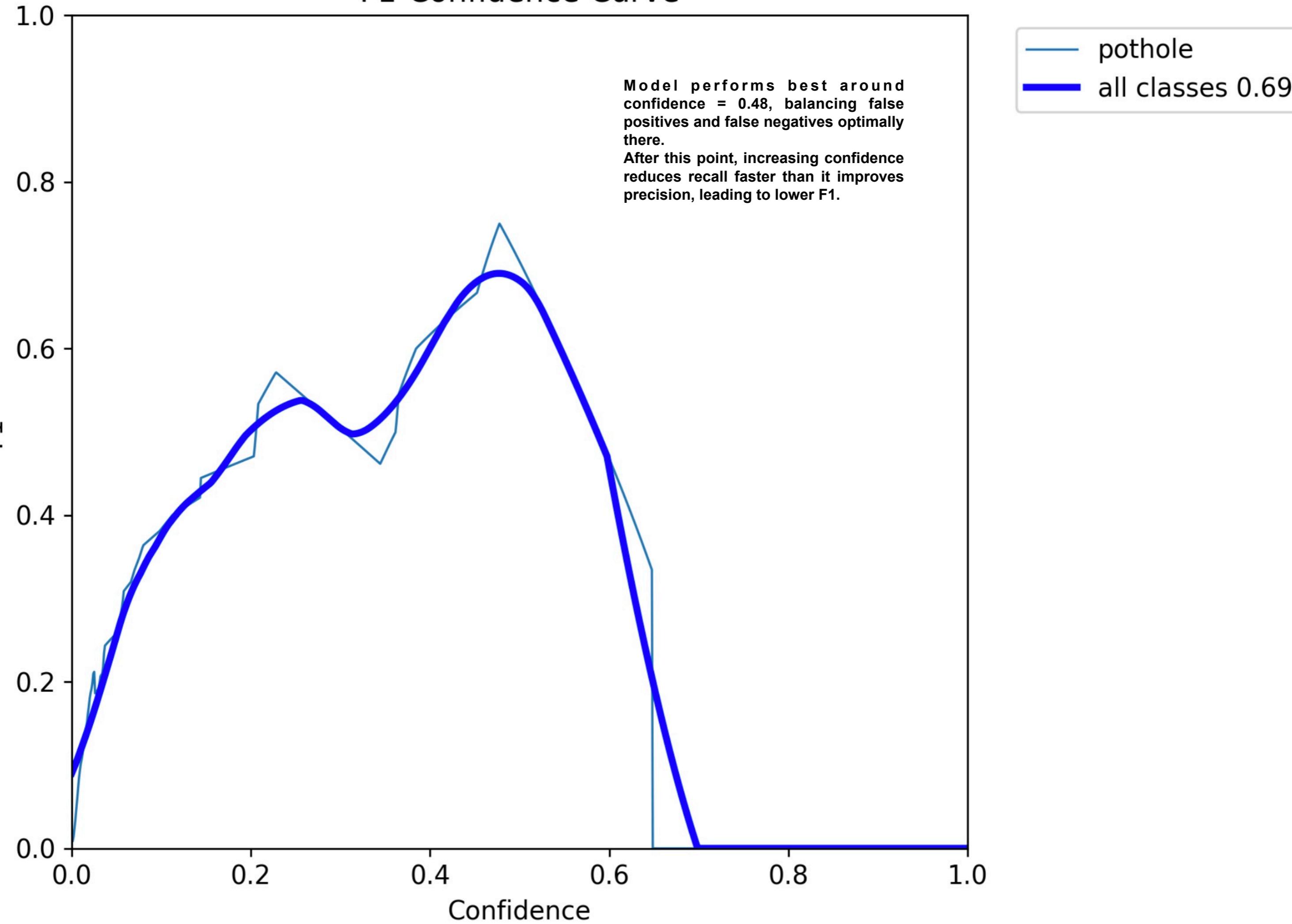
#### Segmentation Metrics

Mask mAP@50 reached ~0.62, with mAP@50-95 stabilizing near 0.40. Performance was solid but could benefit from refined annotations or diverse mask shapes to improve robustness.

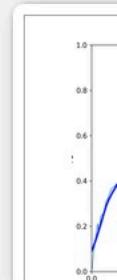
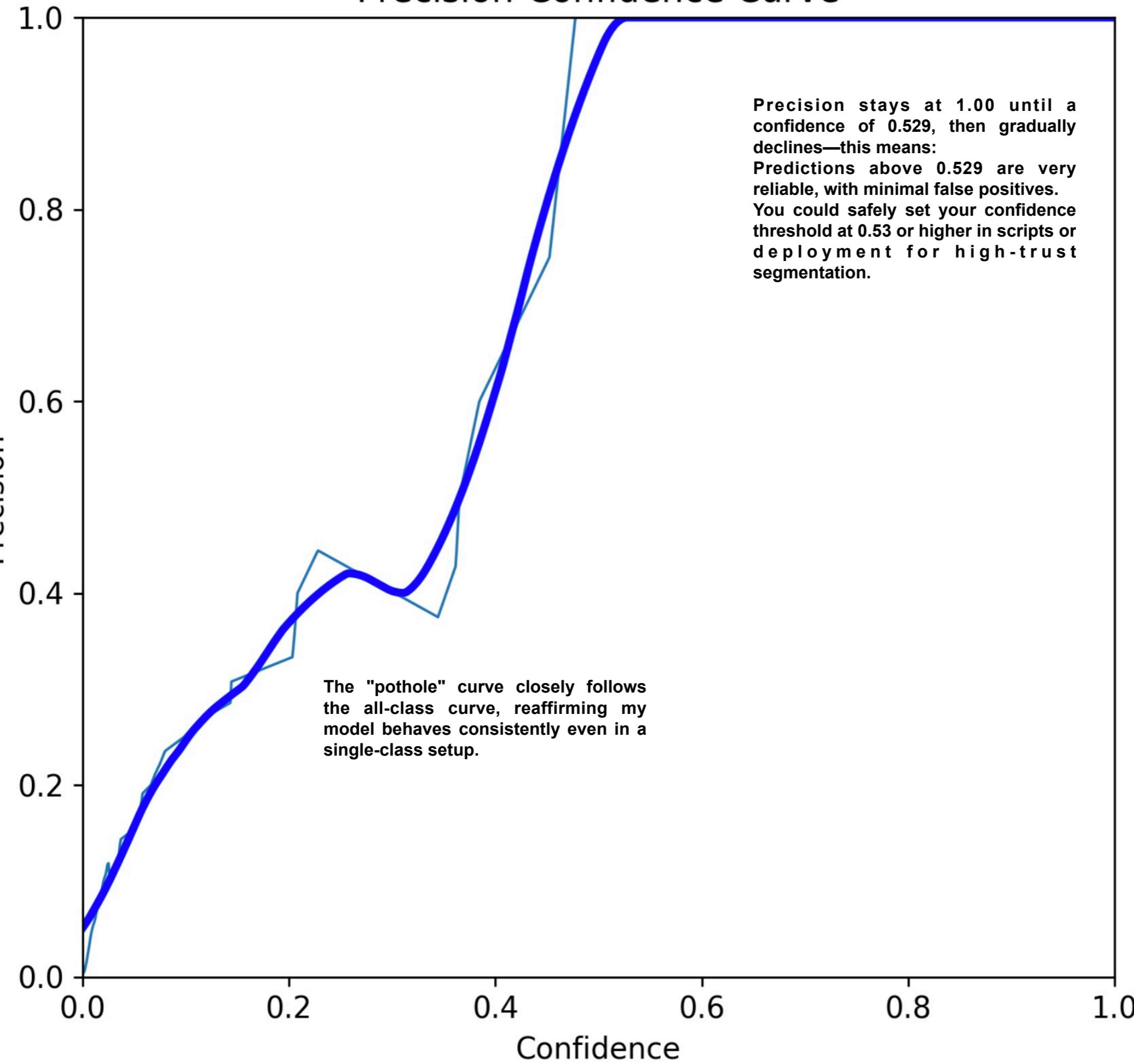
mAP Metrics Over Epochs



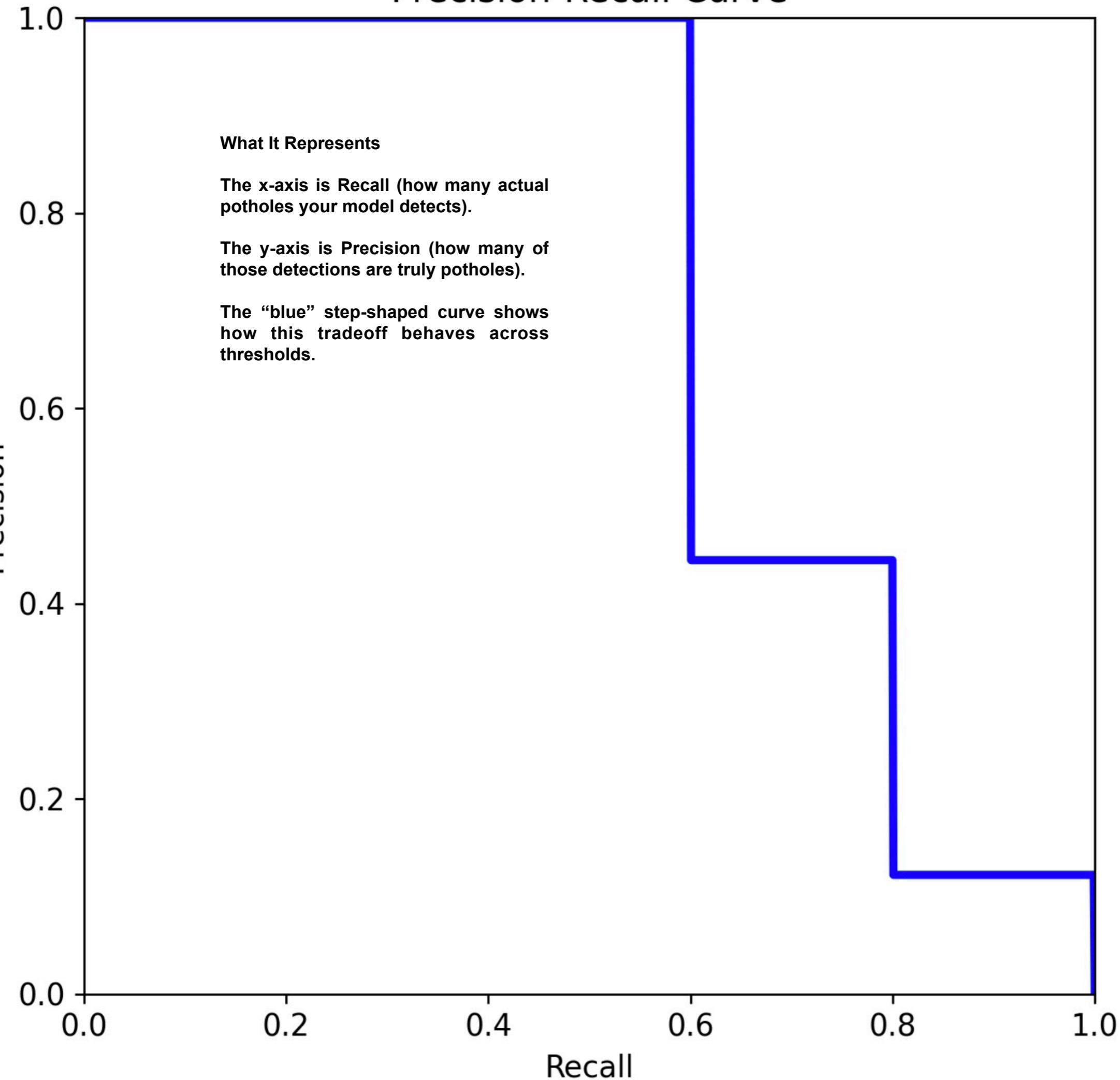
## F1-Confidence Curve



## Precision-Confidence Curve



# Precision-Recall Curve



## What It Represents

The x-axis is Recall (how many actual potholes your model detects).

The y-axis is Precision (how many of those detections are truly potholes).

The “blue” step-shaped curve shows how this tradeoff behaves across thresholds.

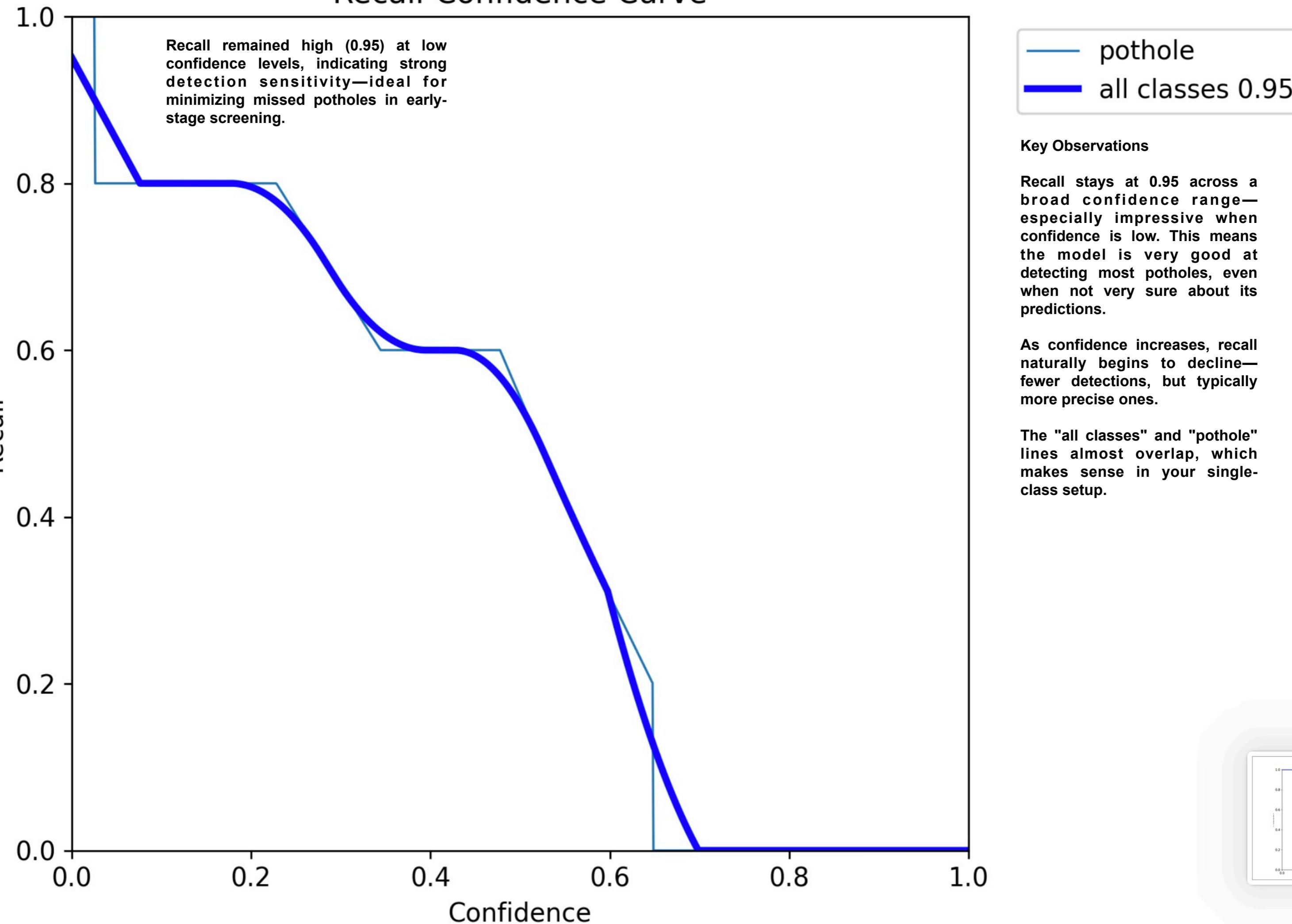
## Key Metrics from the Graph

mAP@0.5 for both “pothole” and “all classes” is 0.708 — solid performance.

The curve shape indicates high precision at low recall, with a gradual tradeoff as recall improves.

This balance tells us your model avoids many false positives but might still miss some potholes (false negatives).

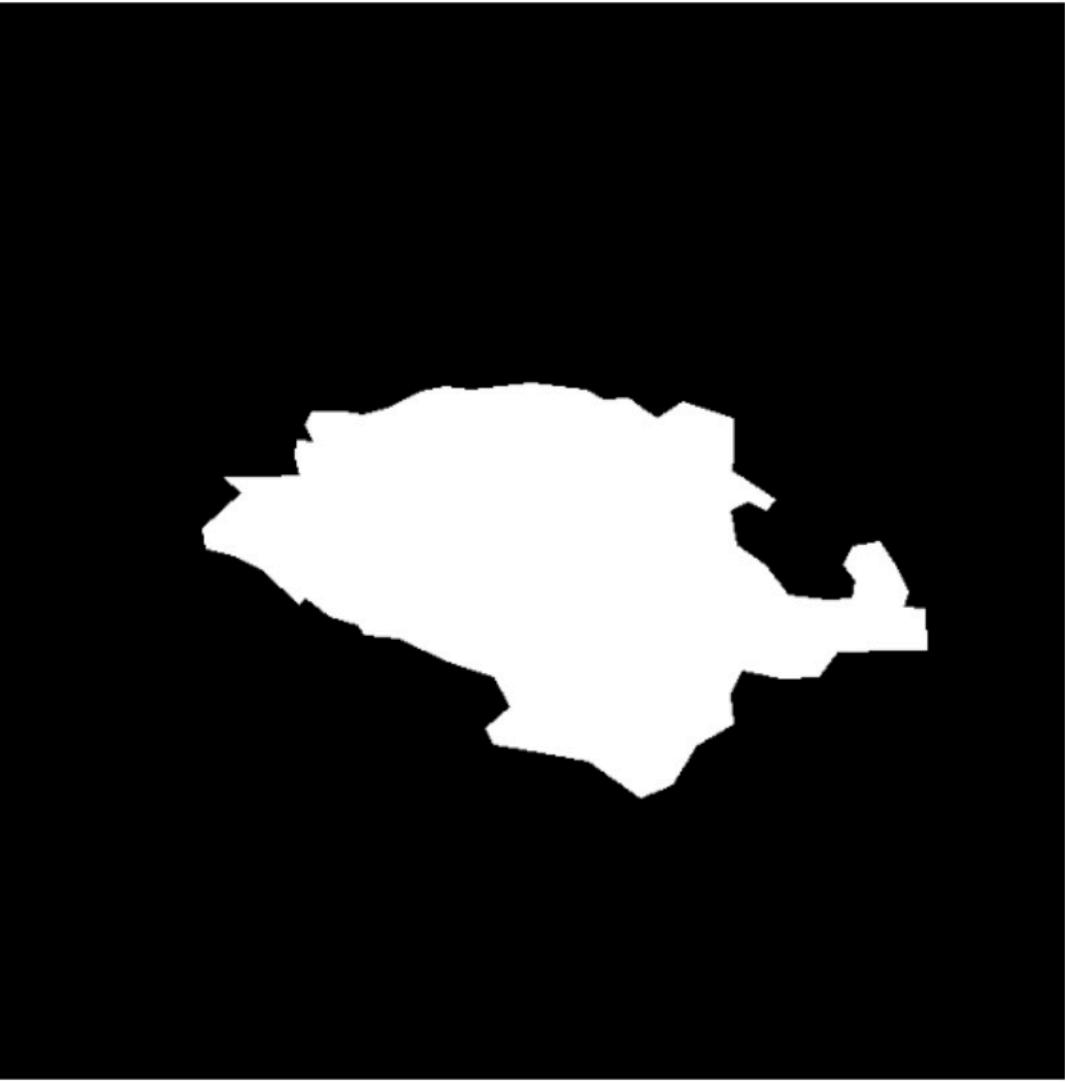
# Recall-Confidence Curve



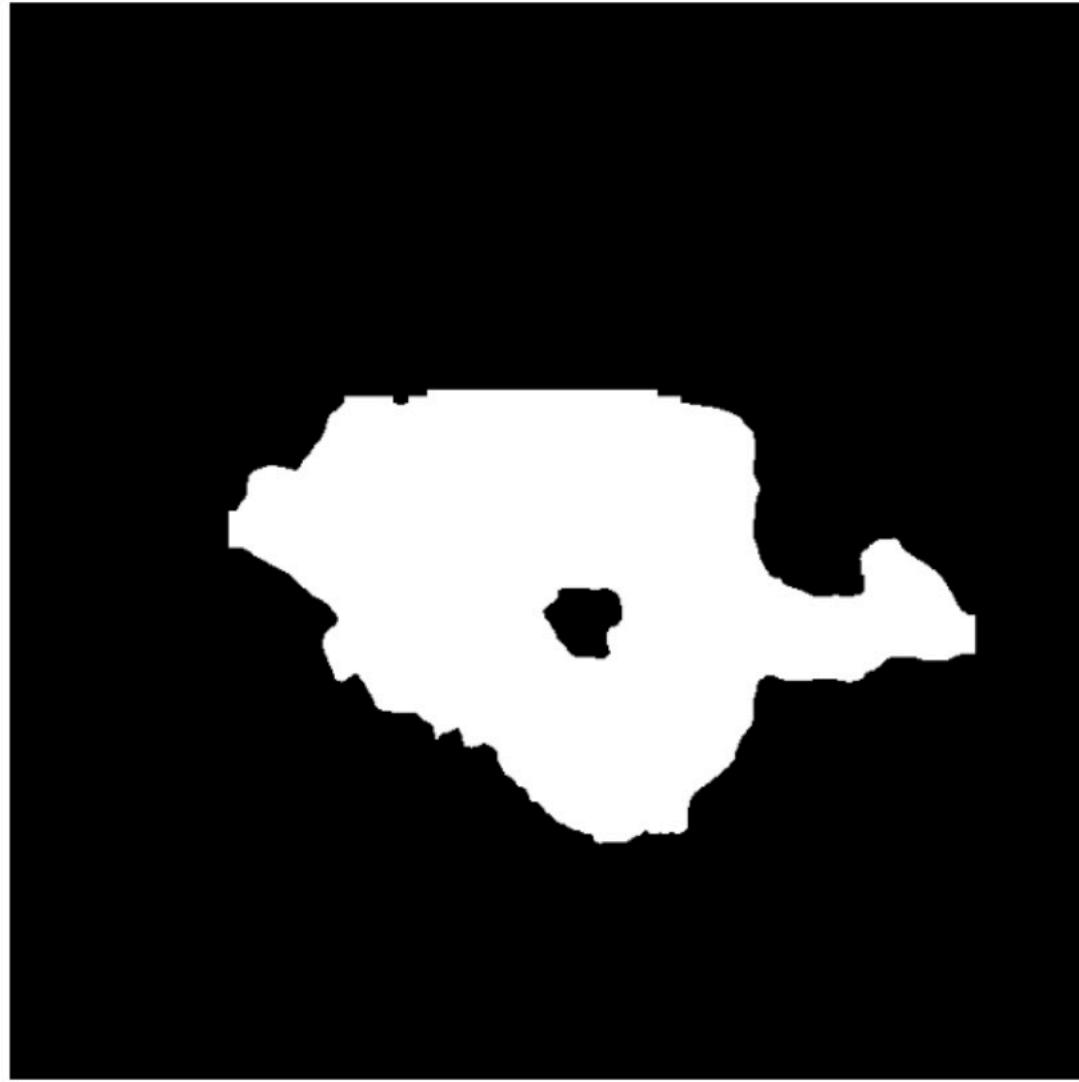
Original image

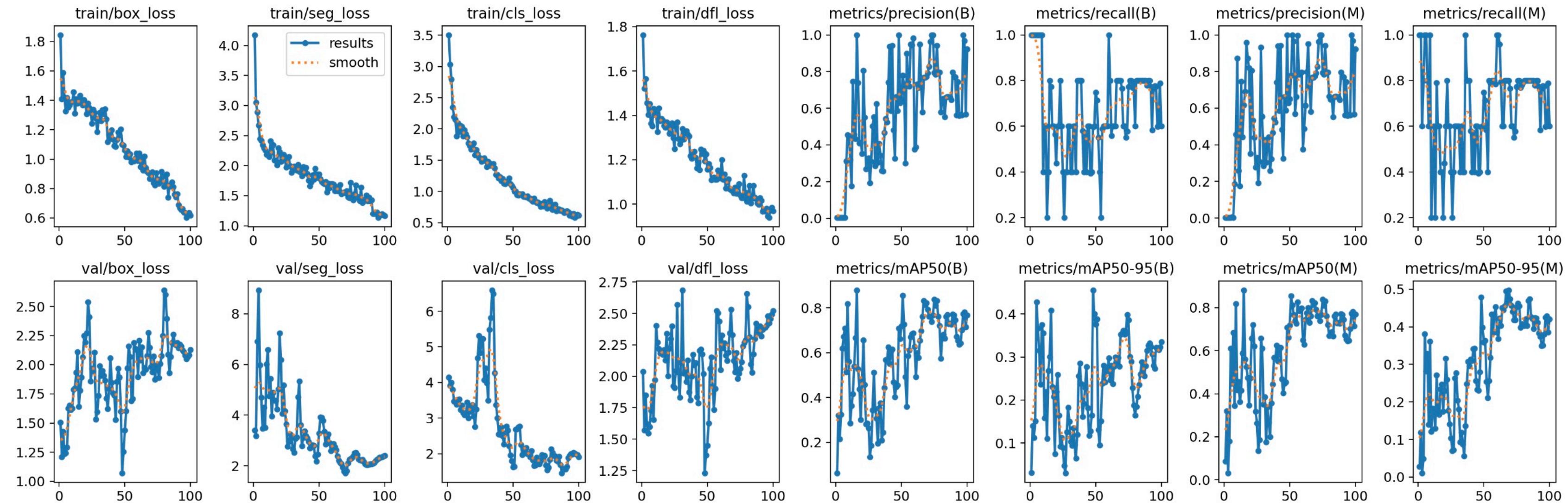


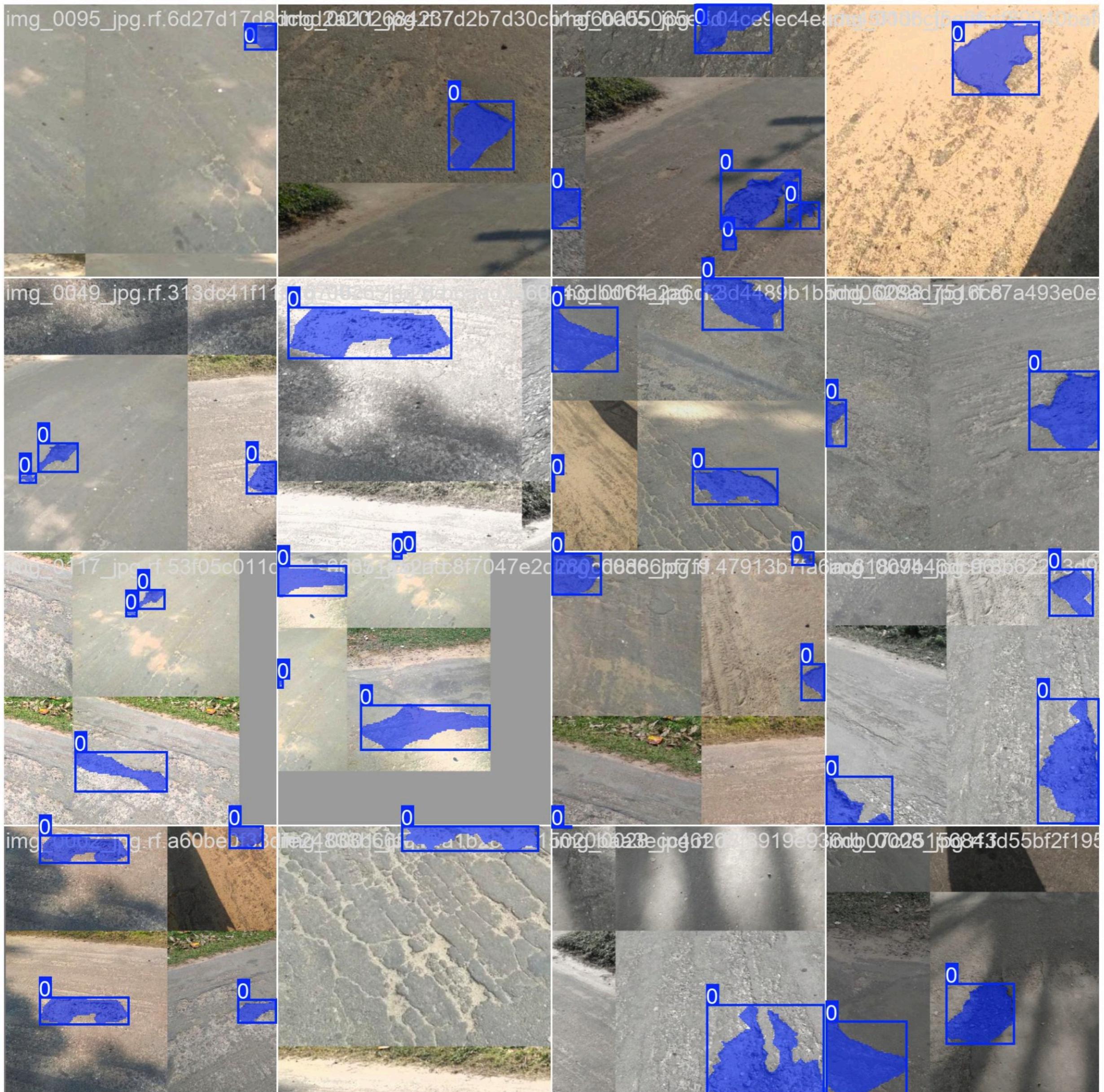
Ground truth mask

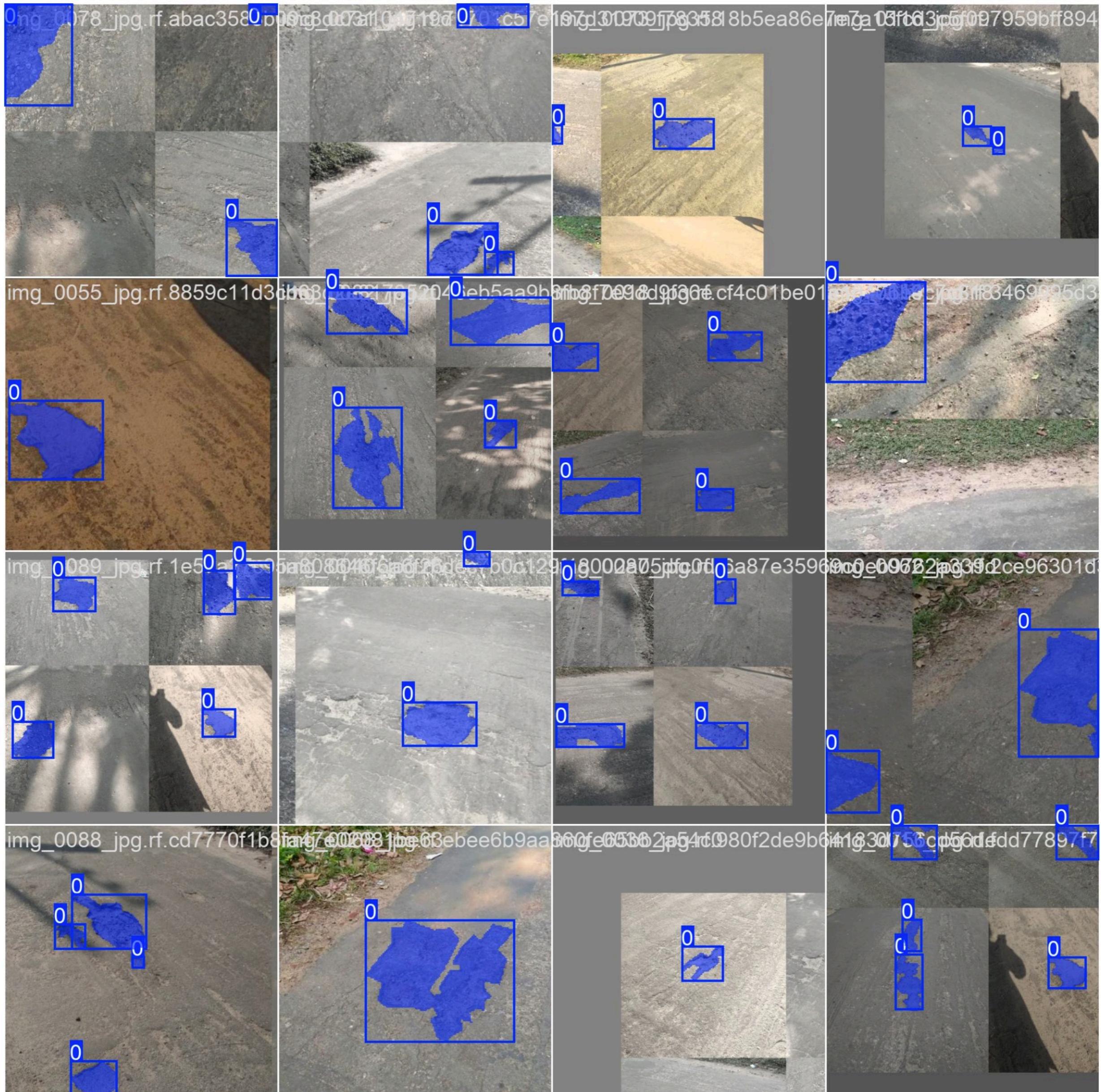


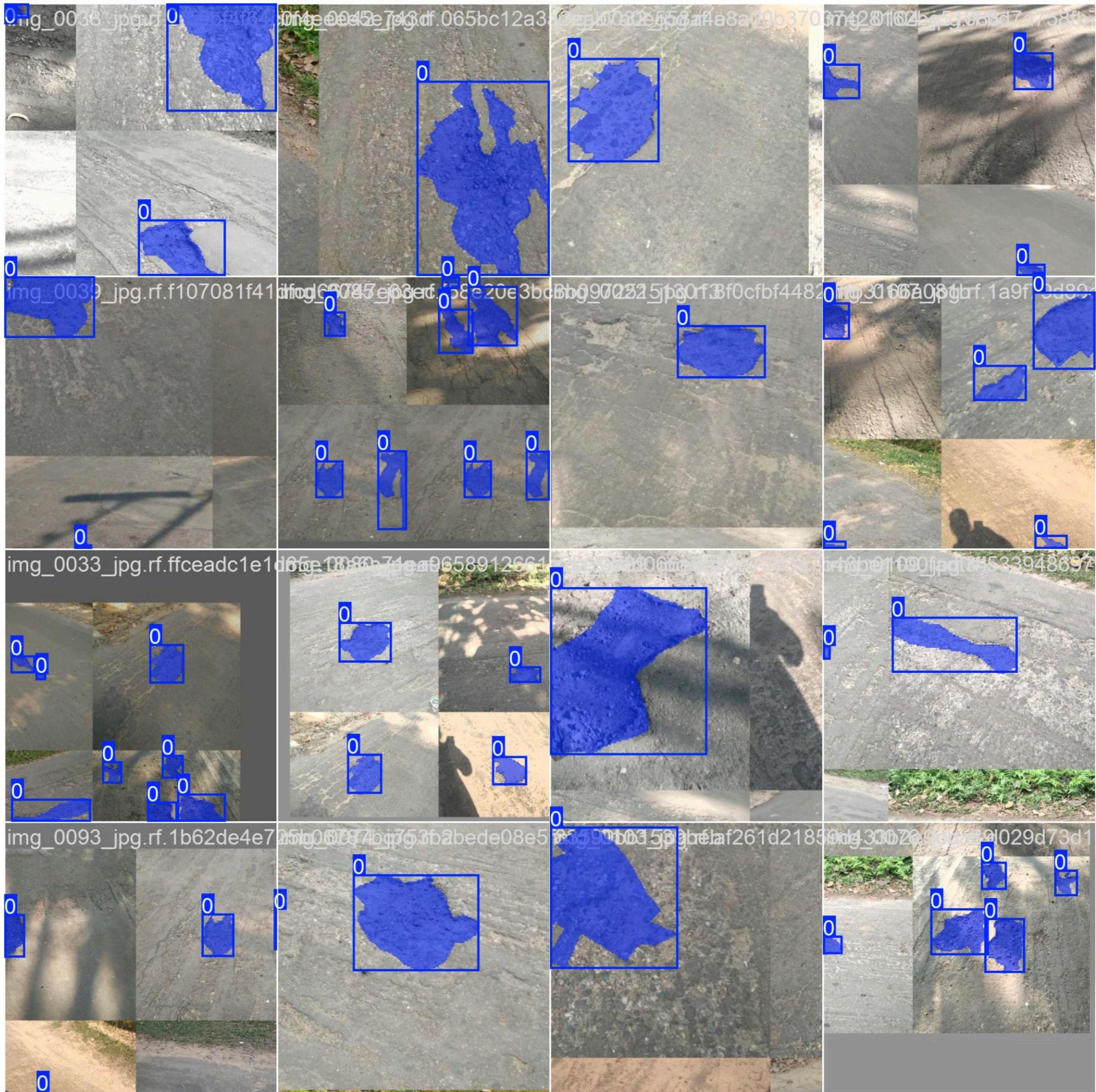
Predicted mask

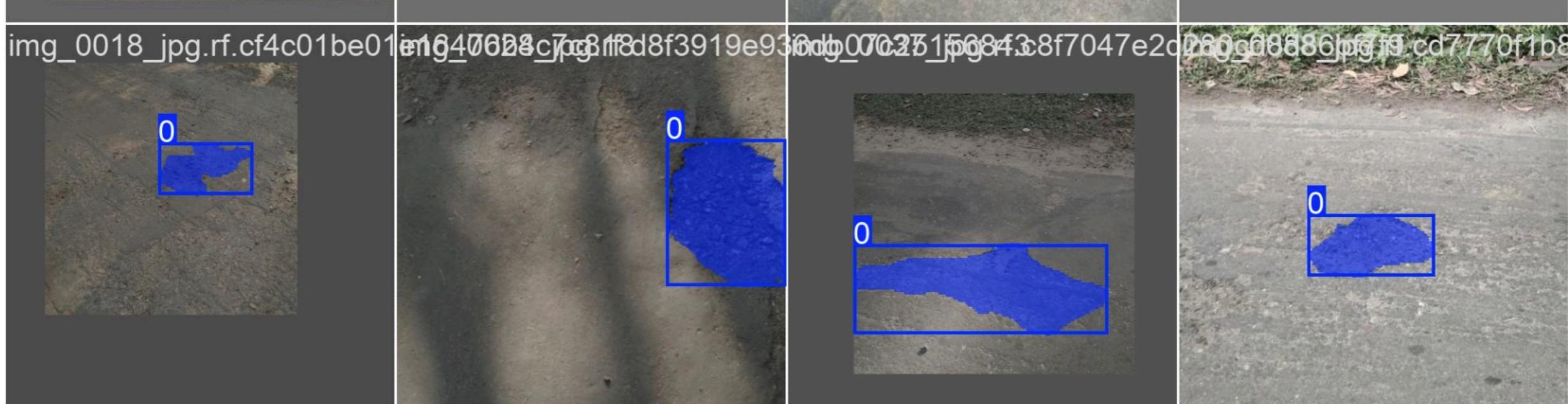
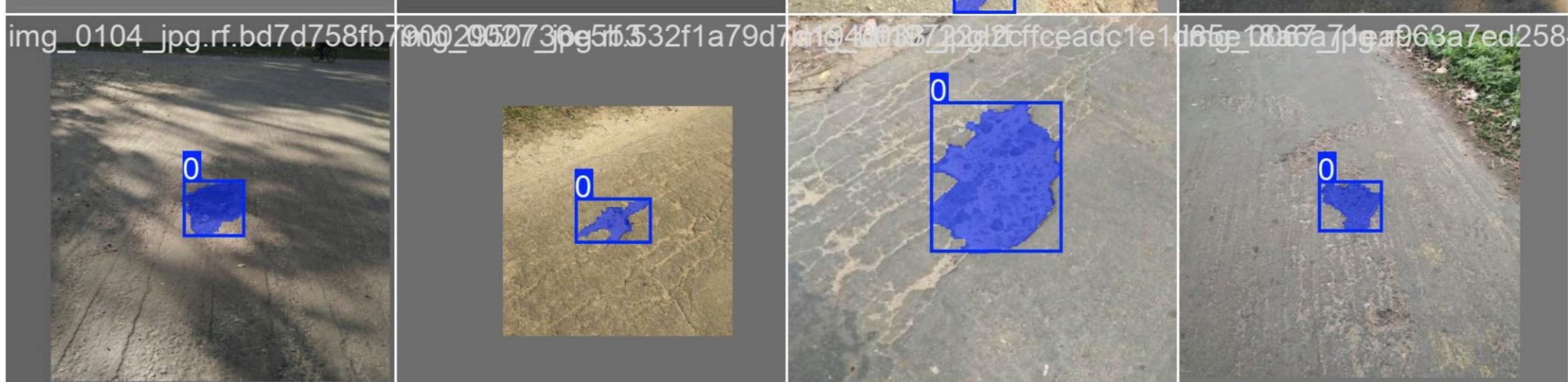
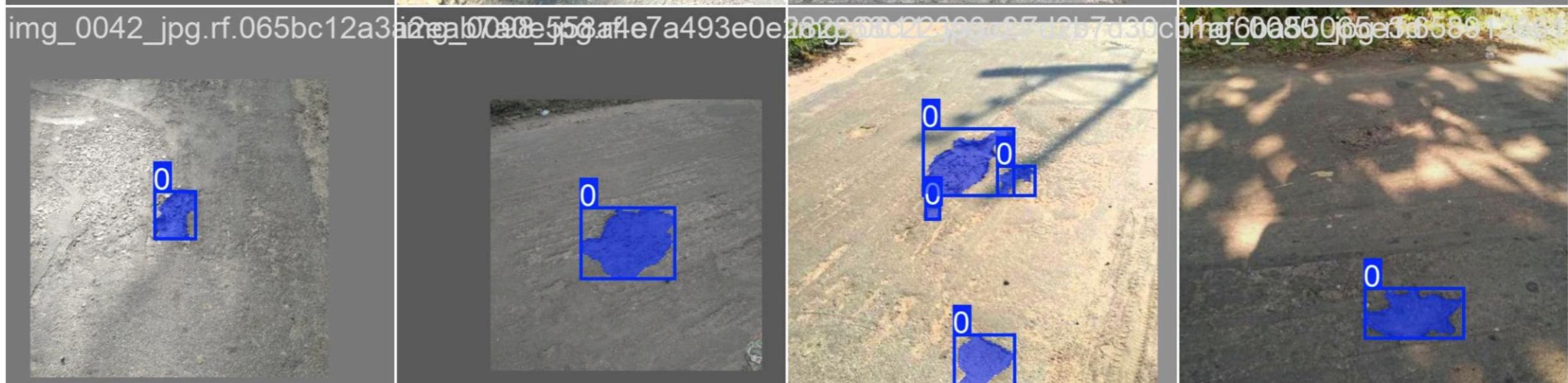


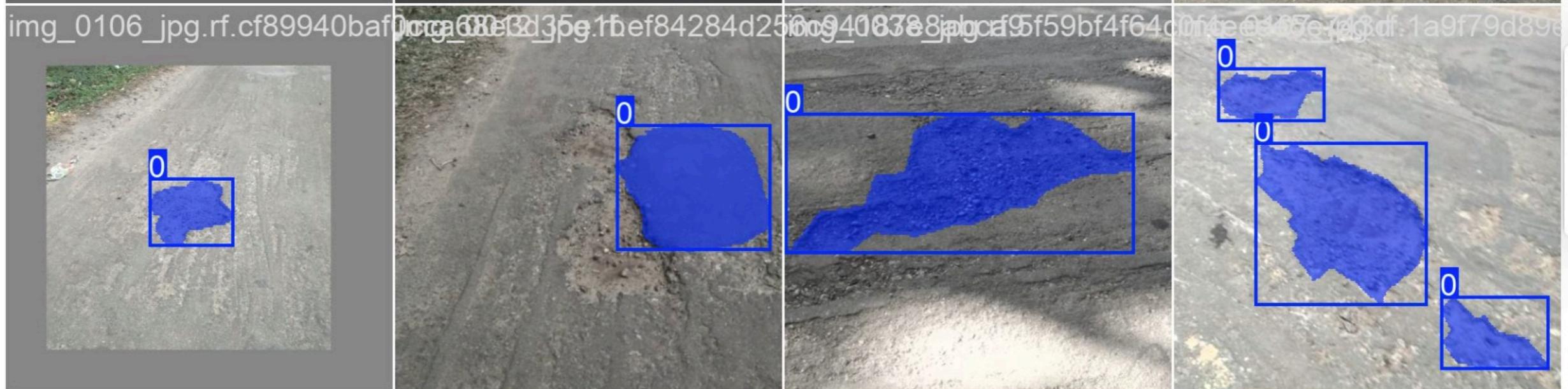
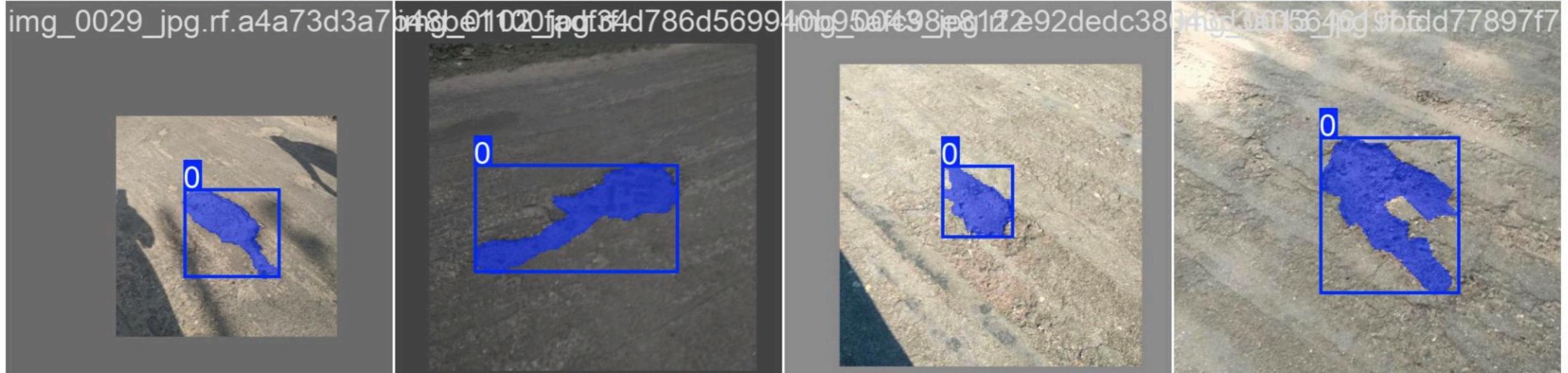
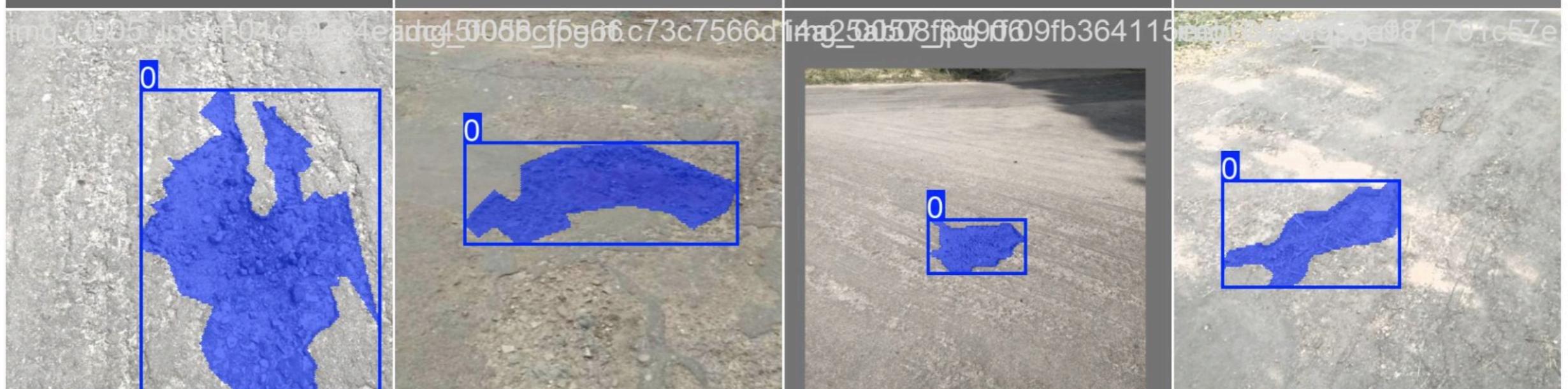


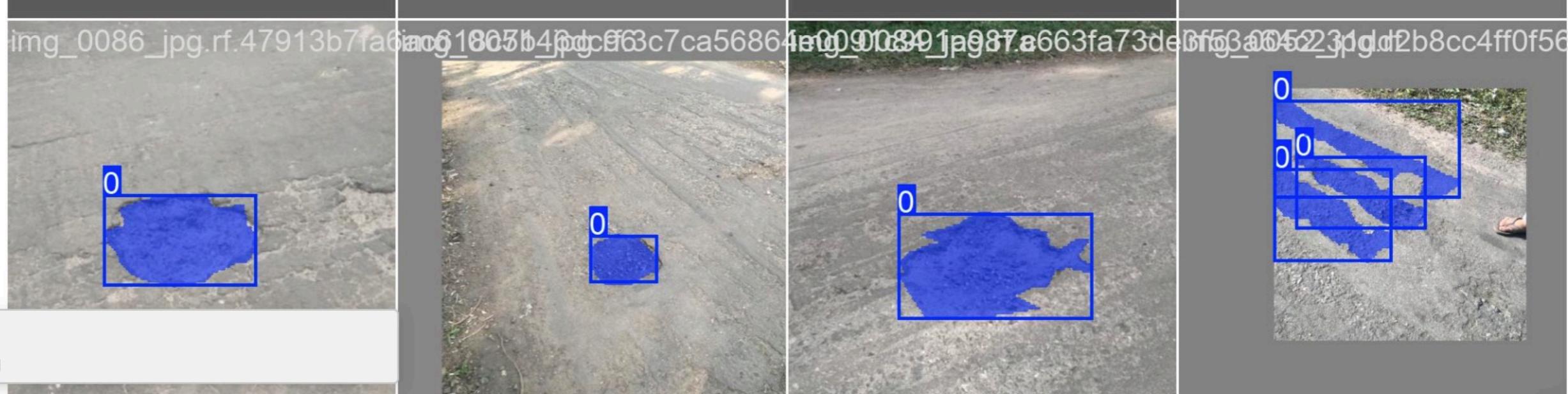


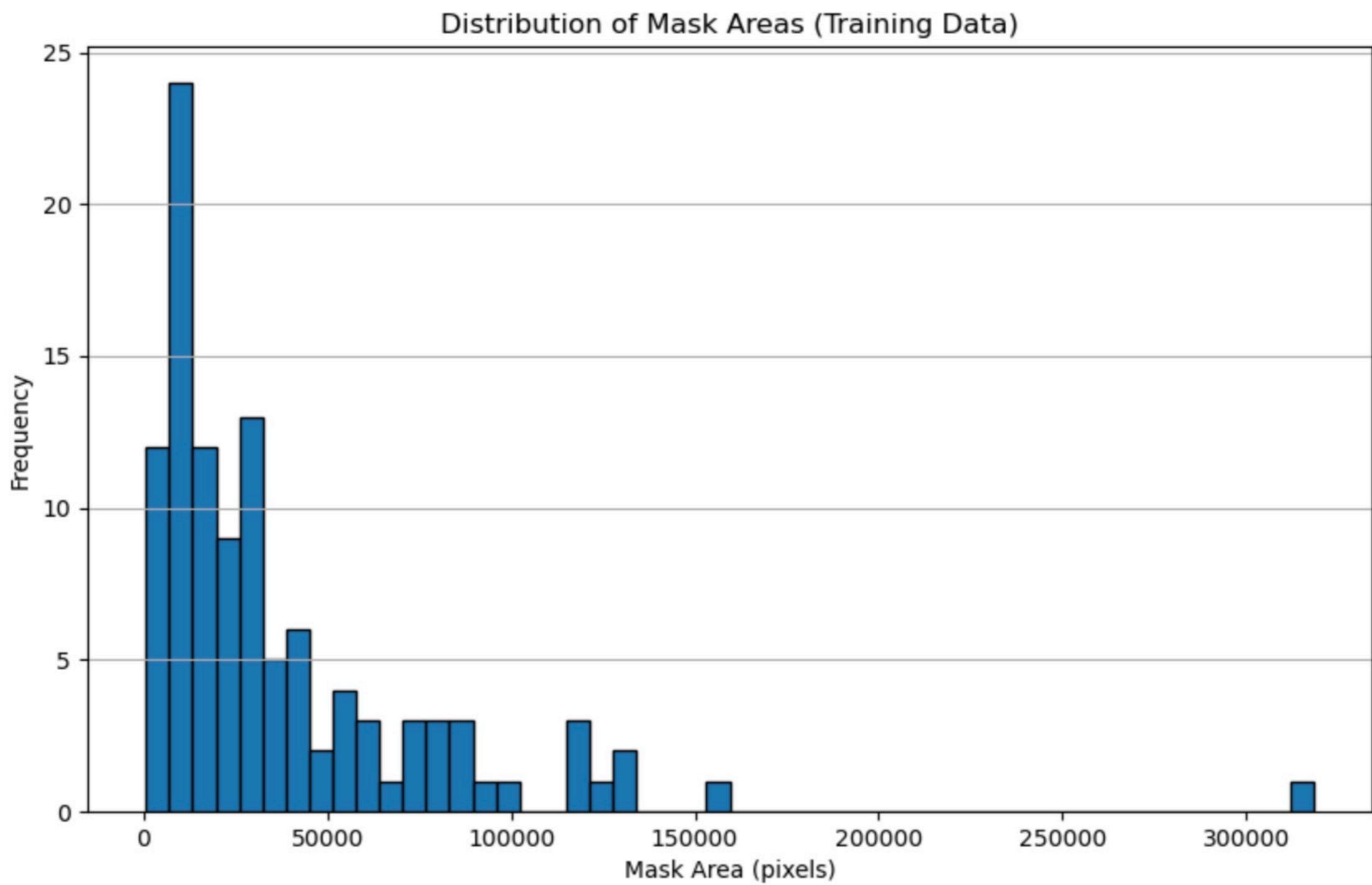












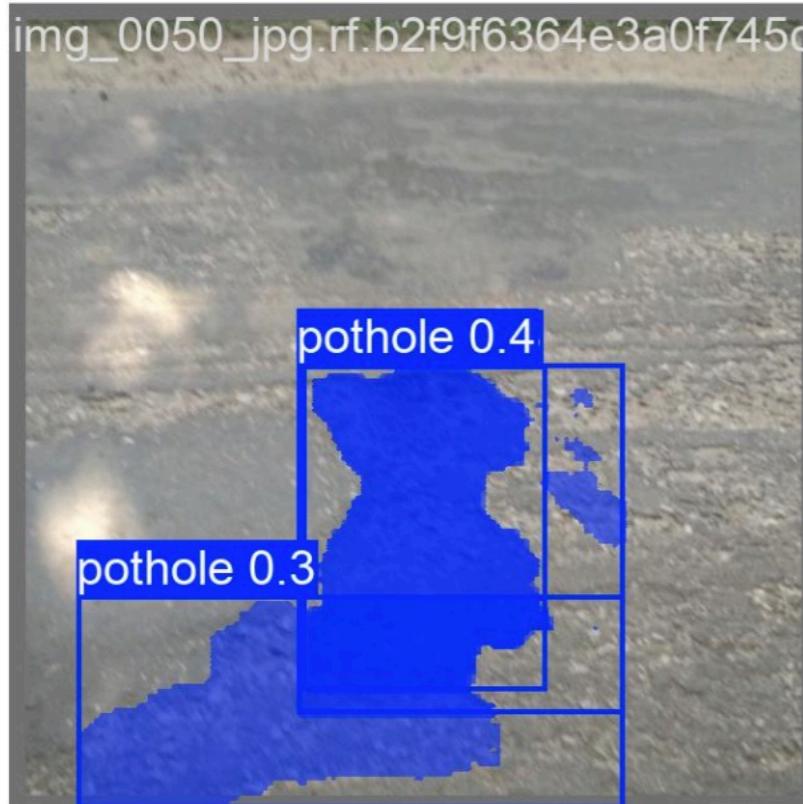
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