YOLOv8 Tumor Detection - Automated Report

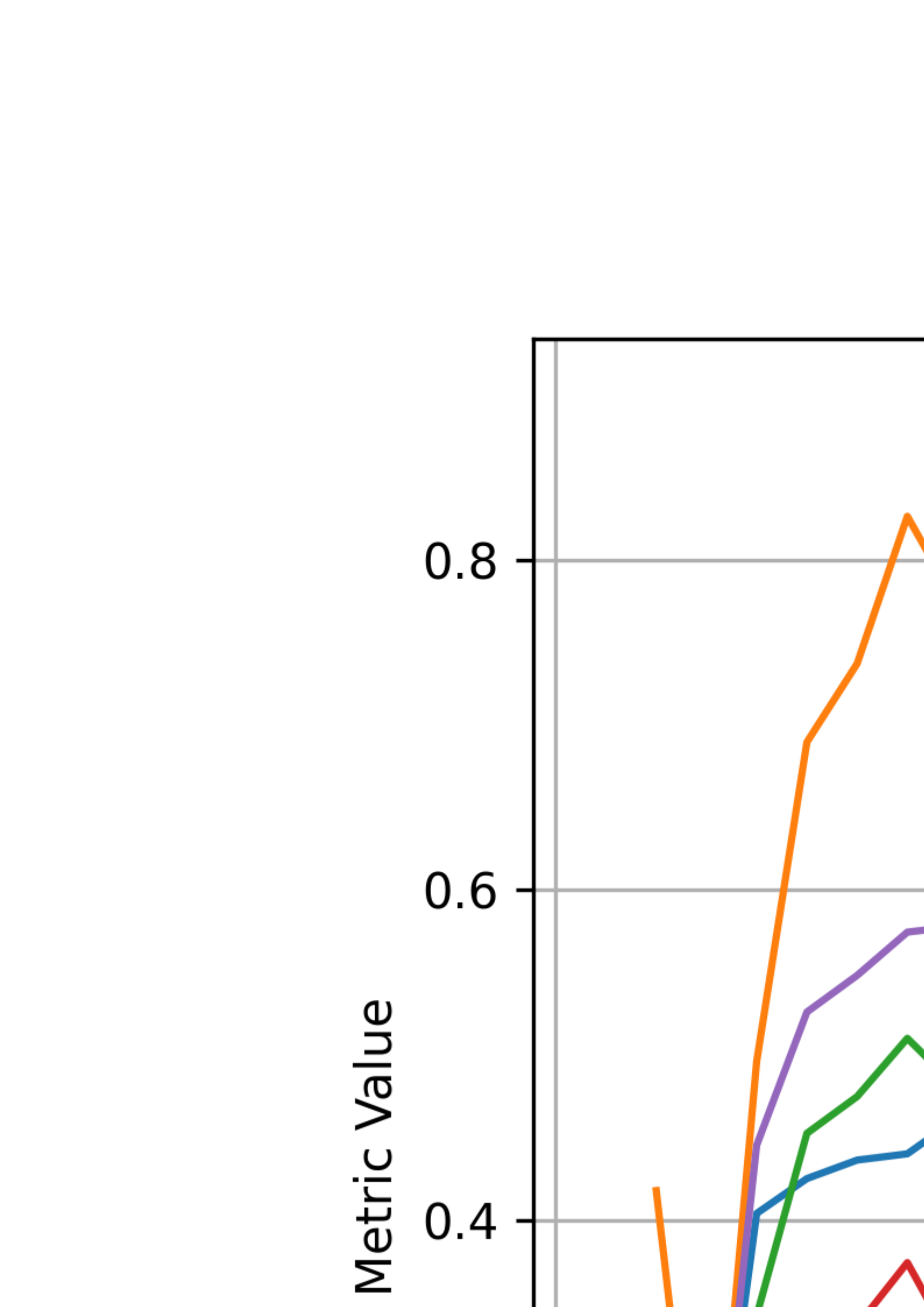
1 Project Overview

This report documents the training of a **YOLOv8 model for tumor detection** using custom medical imaging datasets with YOLO-formatted bounding box labels.

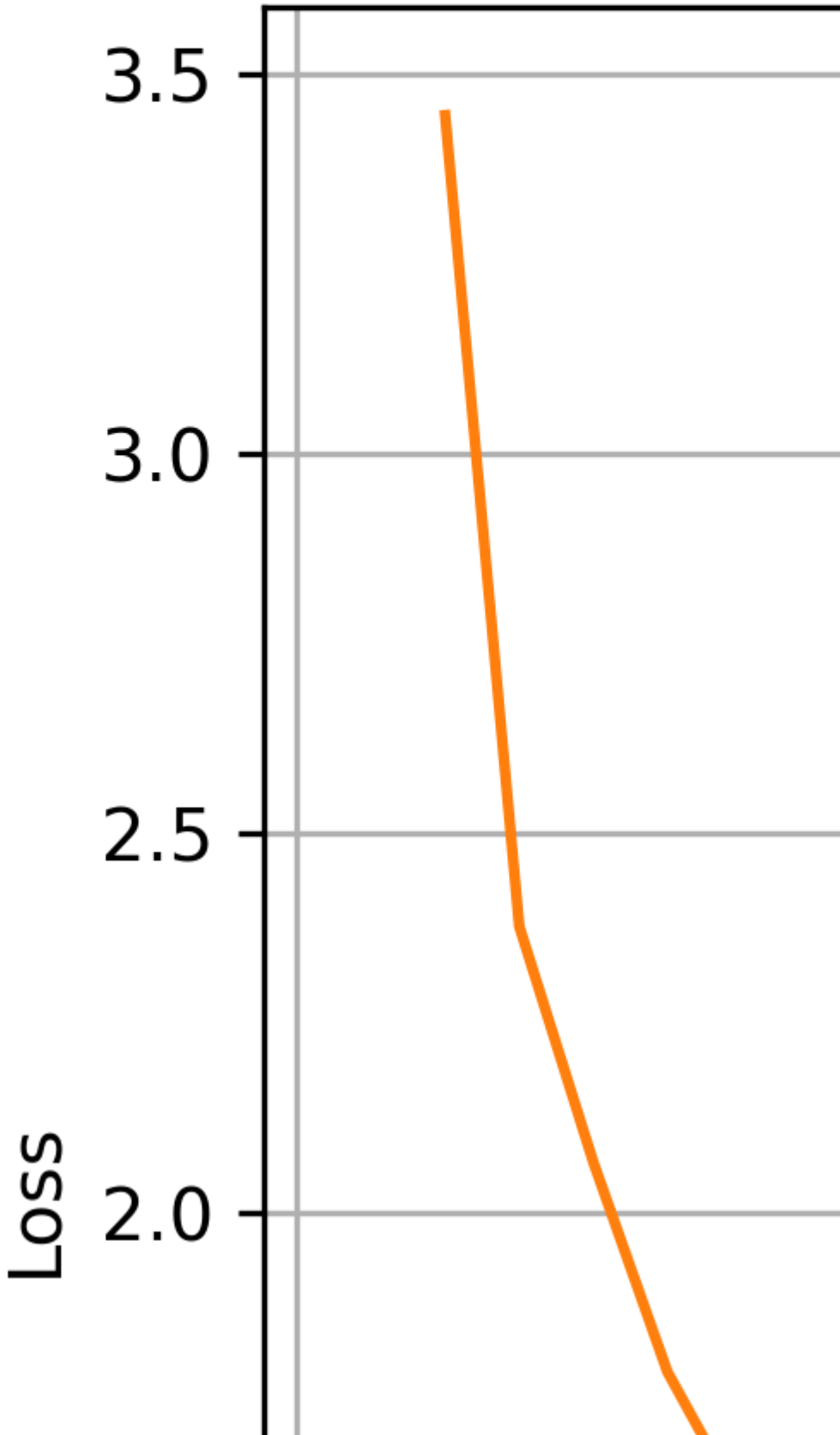
2 Training Summary

- **Total Epochs Trained:** 50
- **Image Size:** 640x640
- **Batch Size:** 8
- **Model:** YOLOv8n.pt

3 Validation Metrics Across Epochs


0.8
0.6
0.4
Metric Value

4 Training Loss Across Epochs


3.5
3.0
2.5
2.0
Loss

5 Key Observations

- The mAP@0.5 and mAP@0.5:0.95 curves provide insights into model generalization on validation data.
- Loss curves help track overfitting or underfitting.
- Precision, Recall, and F1-score trends confirm detection consistency.

6 Next Steps

- Evaluate the best model checkpoint using detailed test data.
- Run inference on unseen tumor scan images.
- If needed, fine-tune using advanced augmentation or a larger YOLOv8 model variant.
- Deploy to ONNX/TensorRT for real-time hospital or clinical edge deployment.

This report was auto-generated to maintain clean documentation during experimentation.