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## **PROACTIVE WARE**

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### **Tasks results**

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# Contents

<b>1</b>	<b>First task</b>	<b>3</b>
1.1	Instance segmentation . . . . .	3
1.2	Object detection . . . . .	4
<b>2</b>	<b>Second Task</b>	<b>5</b>
2.1	FPN . . . . .	6
2.2	PSPNet . . . . .	8
2.3	Unet . . . . .	10
2.4	DeepLabV3 . . . . .	12
2.5	PAN . . . . .	14
2.6	MAnet . . . . .	16
2.7	Conclusion . . . . .	20

# 1 First task

The YOLOv8 model was used for 1.

## 1.1 Instance segmentation

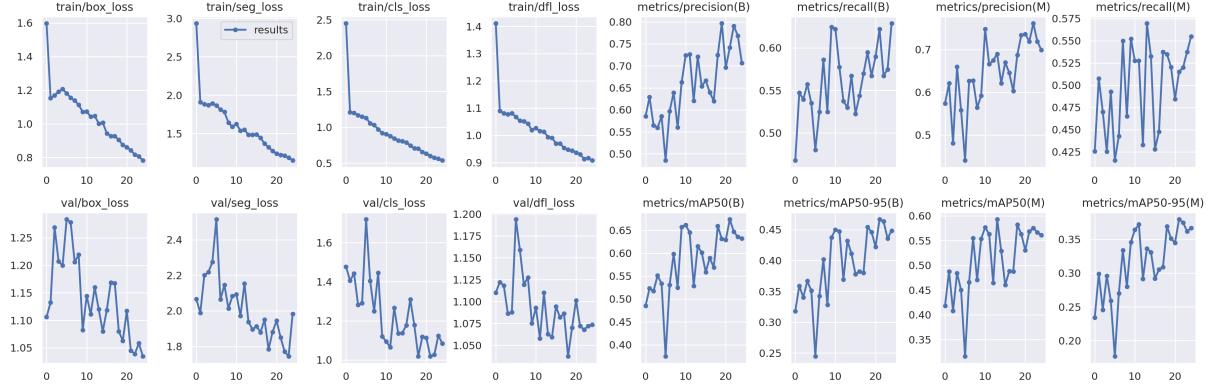


Figure 1: Training and validation process metrics

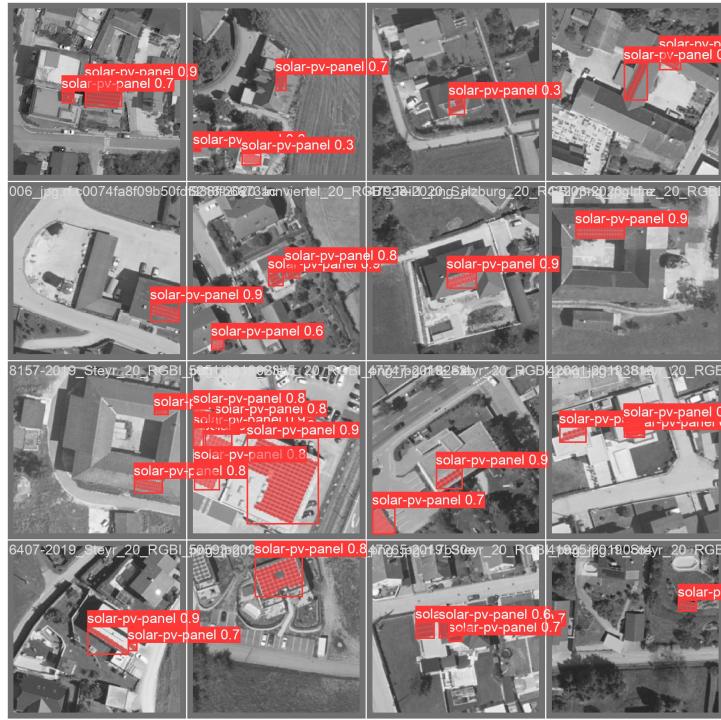


Figure 2: Validation for some pictures

## 1.2 Object detection

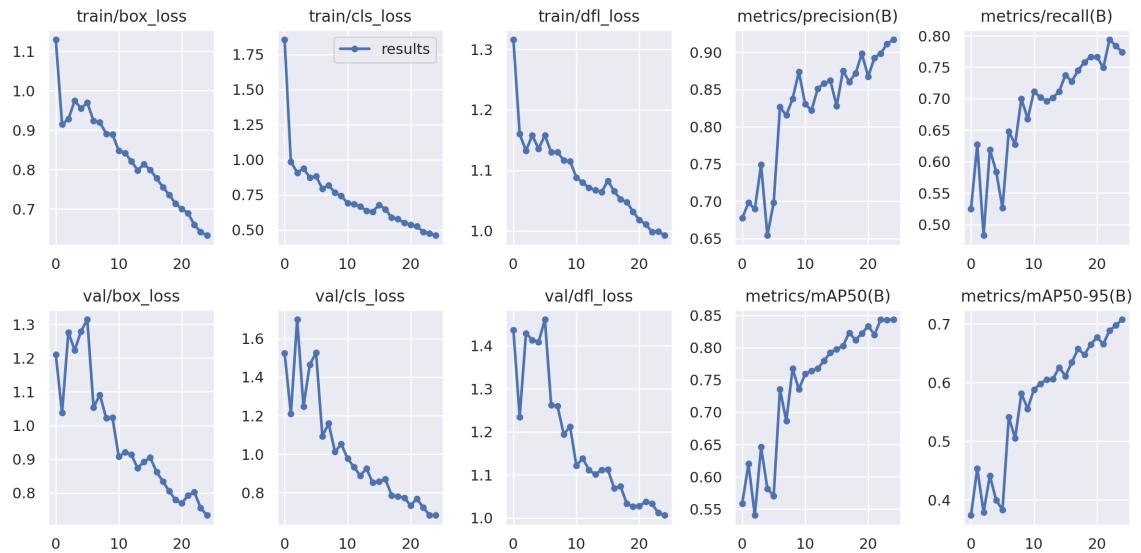


Figure 3: Training and validation process metrics

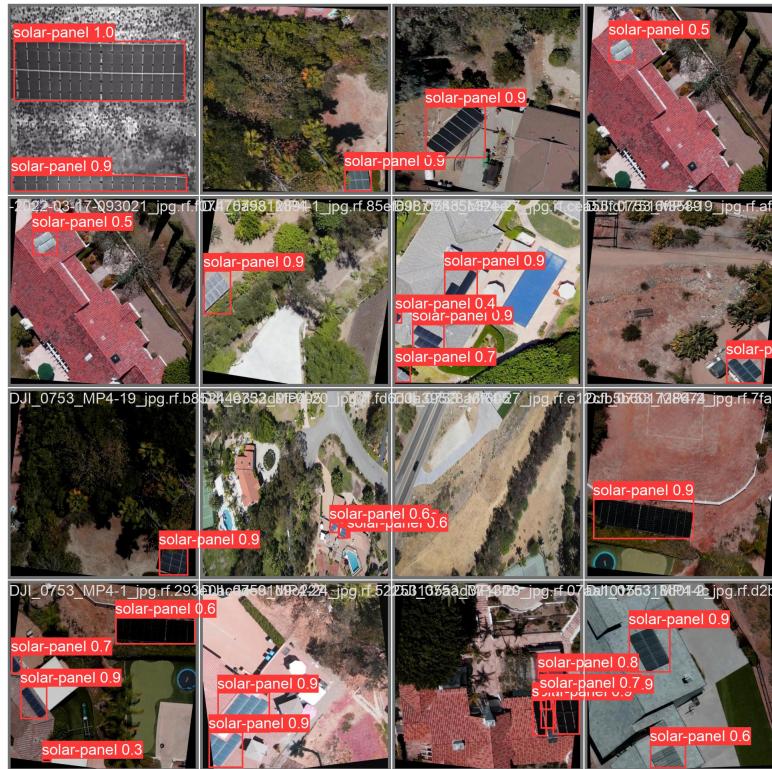


Figure 4: Validation for some pictures



Figure 5: Test result for proactive ware's picture

## 2 Second Task

In this section, we present the individual results of each neural network separately. Additionally, in section 2.7, we conduct a comparative analysis of all approaches used in the second task, represented through two diagrams.

## 2.1 FPN

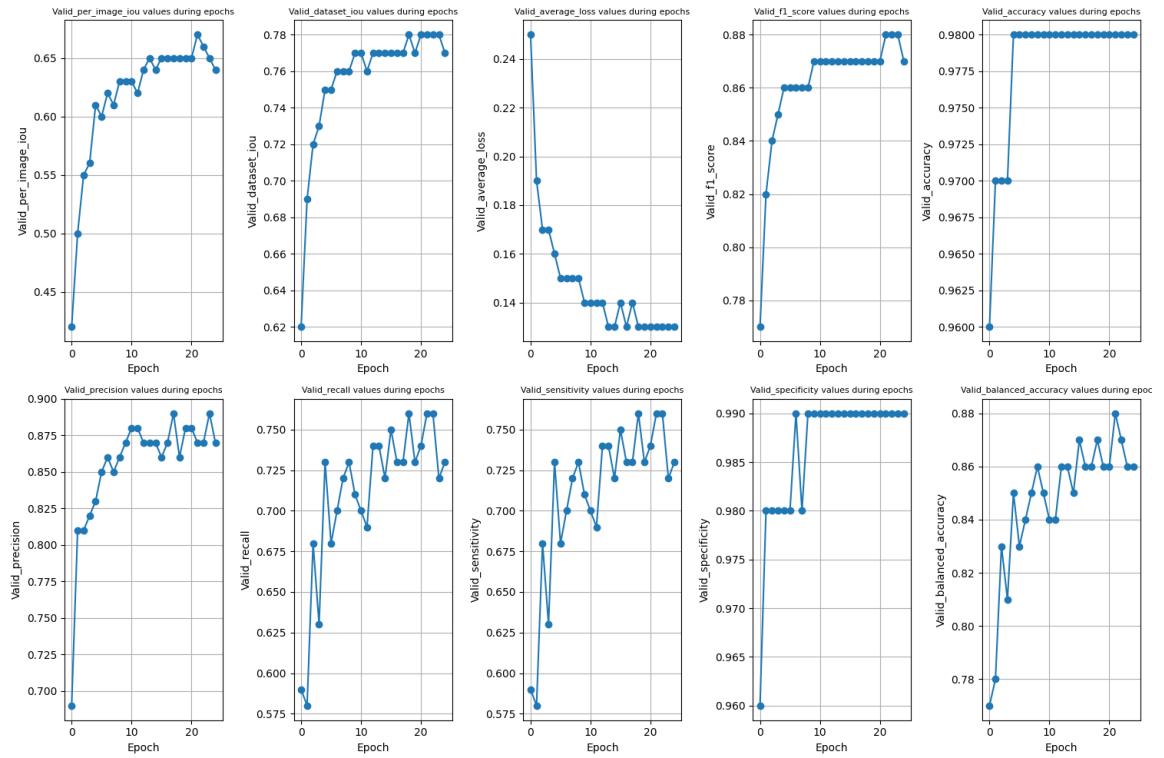


Figure 6: FPN validation process metrics

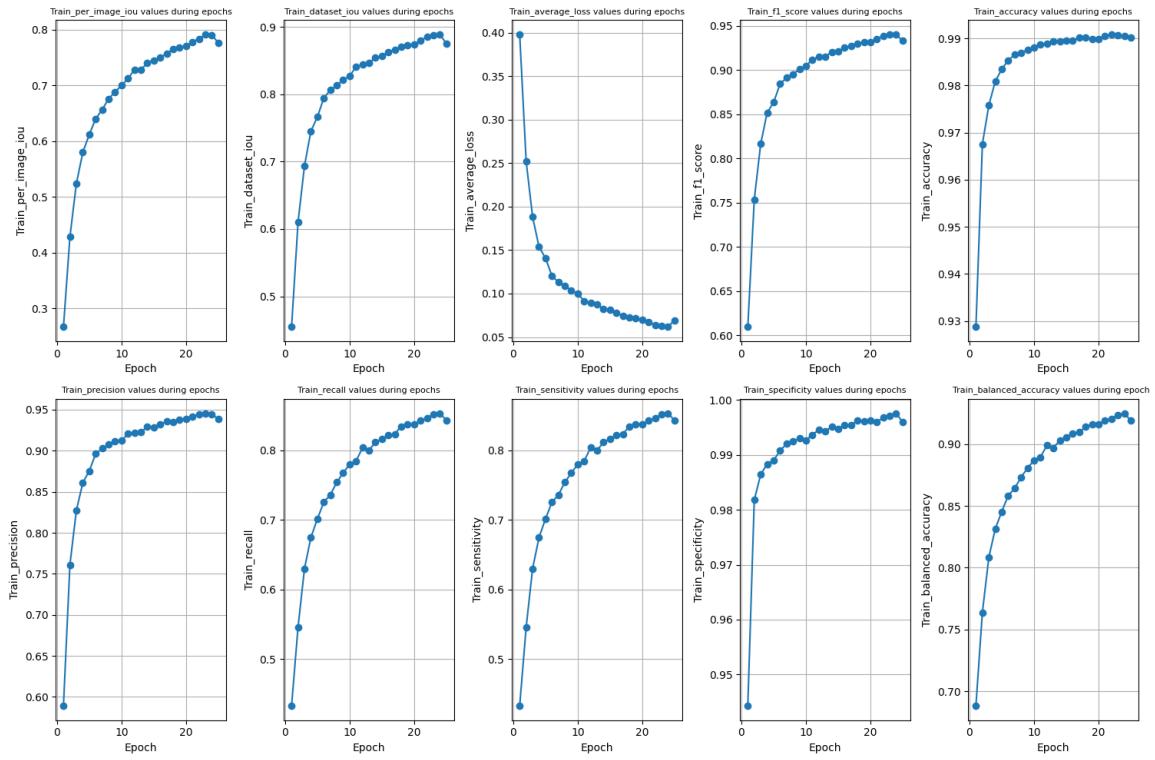


Figure 7: FPN training process metrics

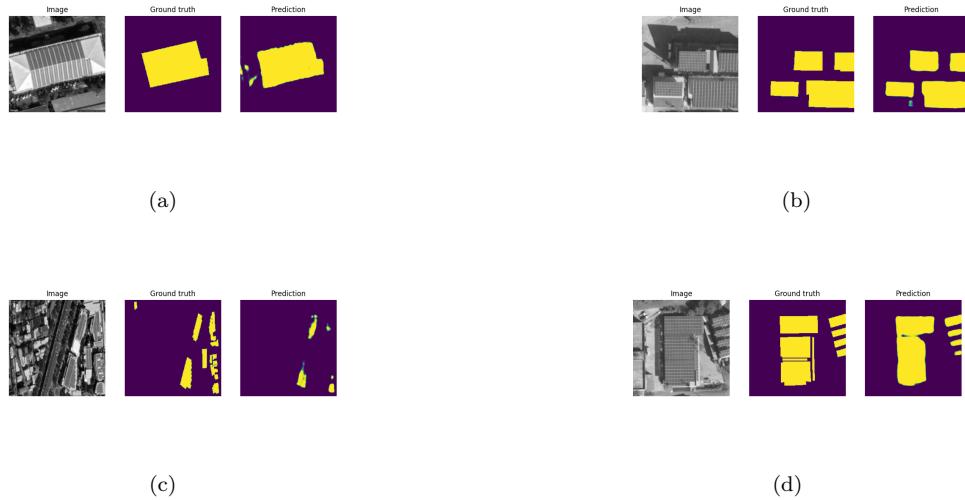


Figure 8: FPN test set results

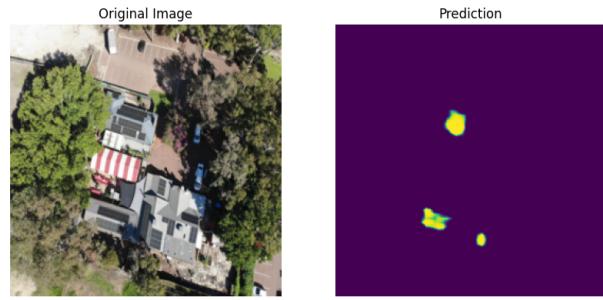


Figure 9: Test result for proactive ware's picture

## 2.2 PSPNet

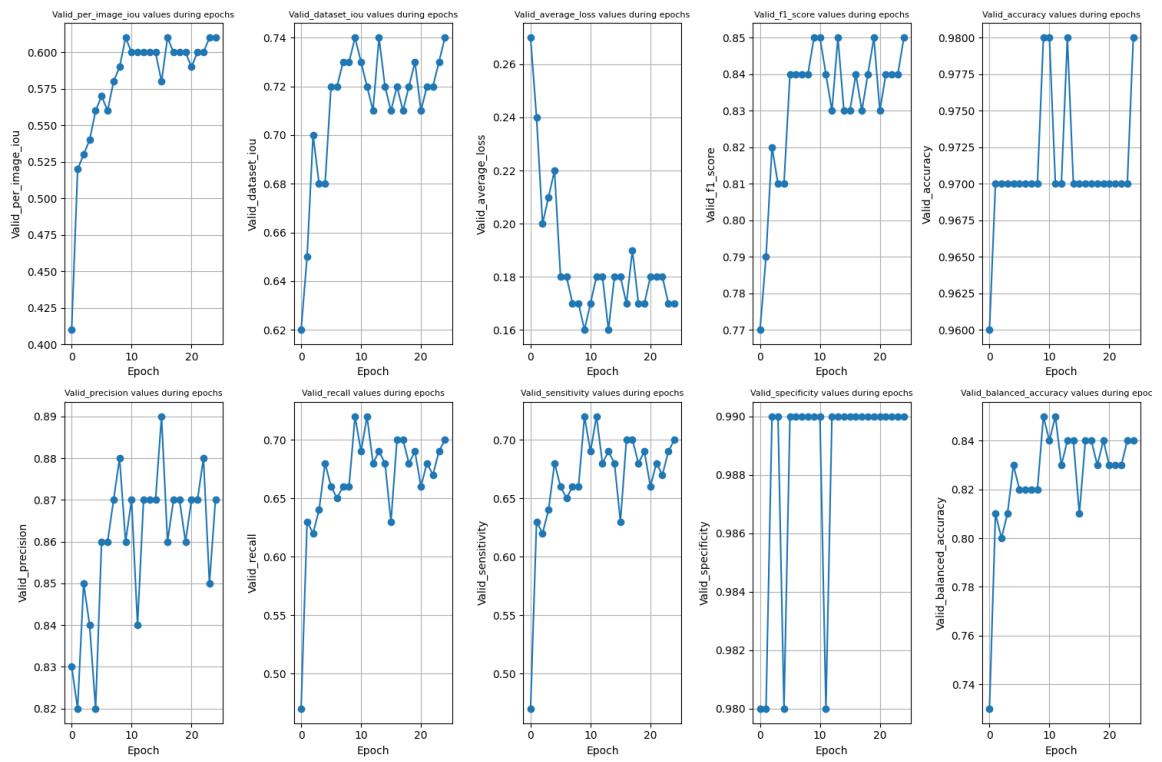


Figure 10: PSPNet validation process metrics

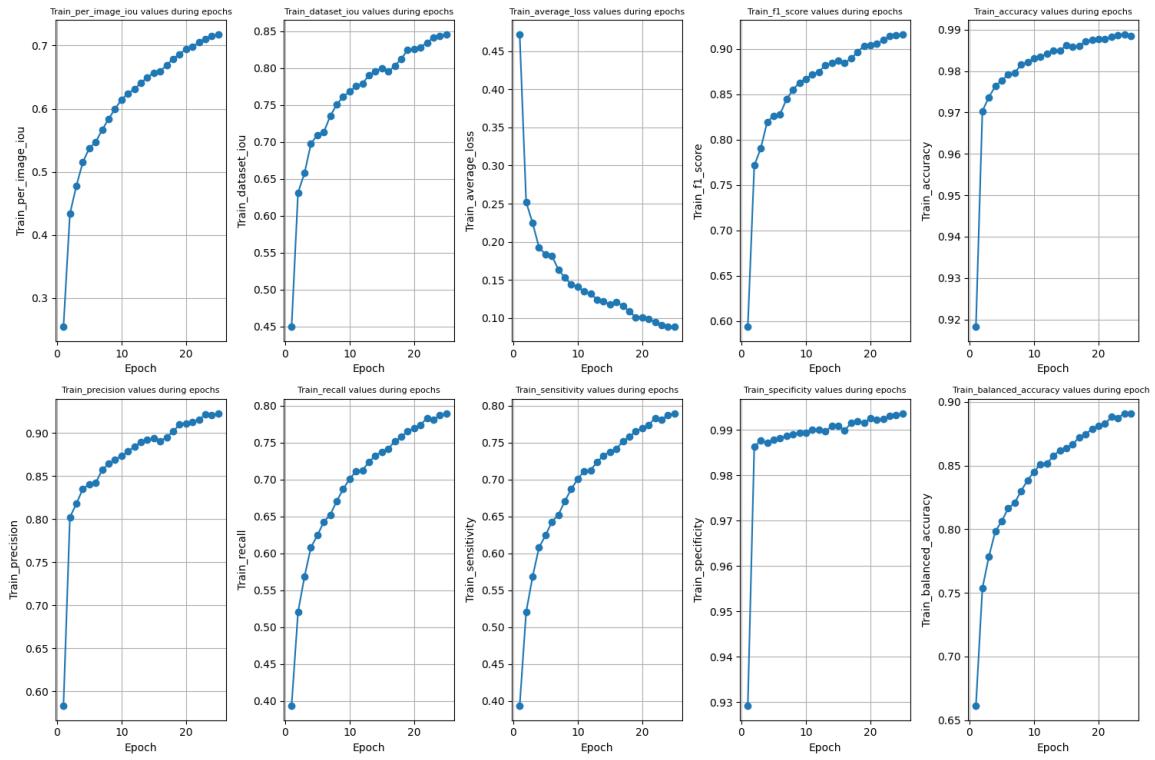


Figure 11: PSPNet training process metrics

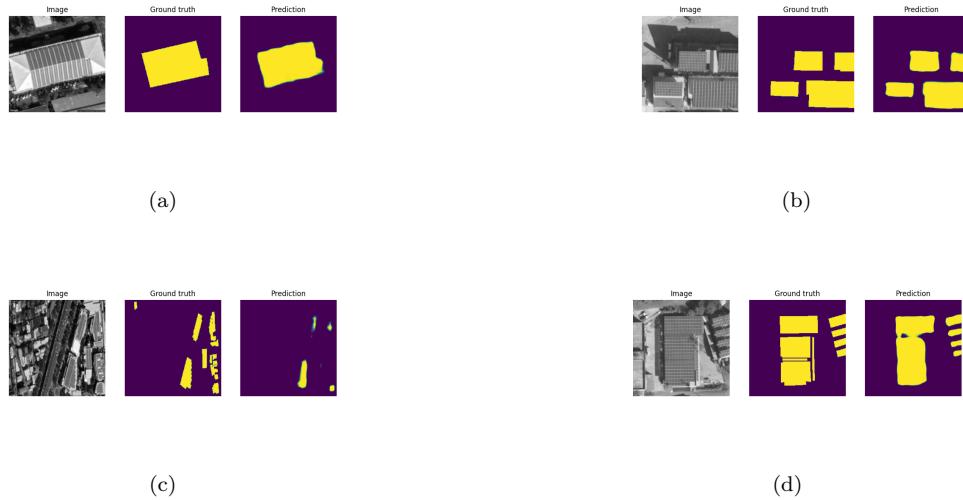


Figure 12: PSPNet test set results

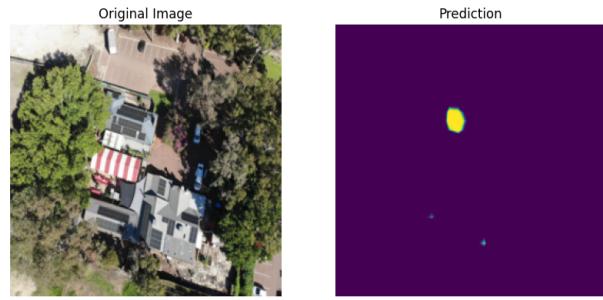


Figure 13: Test result for proactive ware's picture

### 2.3 Unet

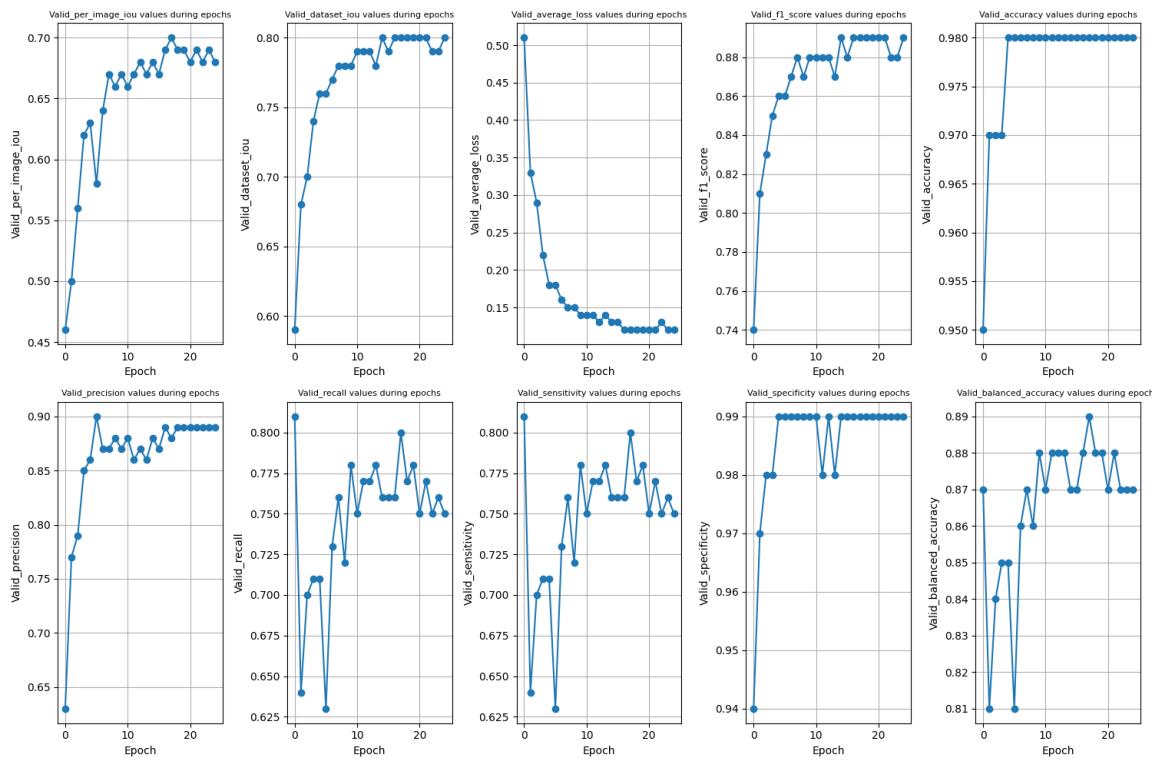


Figure 14: Unet validation process metrics

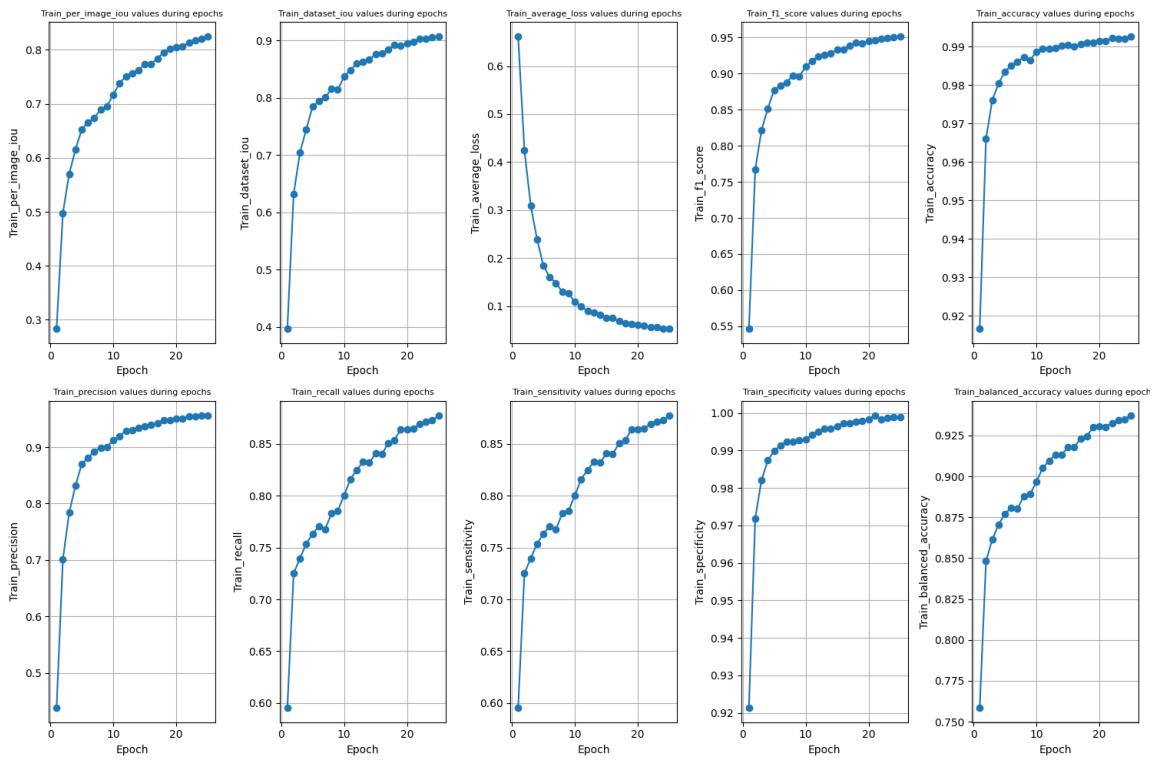


Figure 15: Unet training process metrics

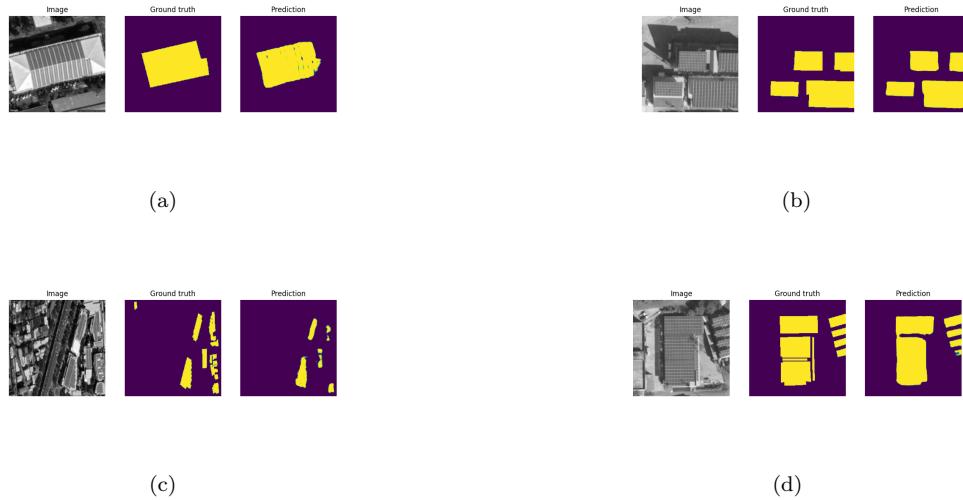


Figure 16: Unet test set results

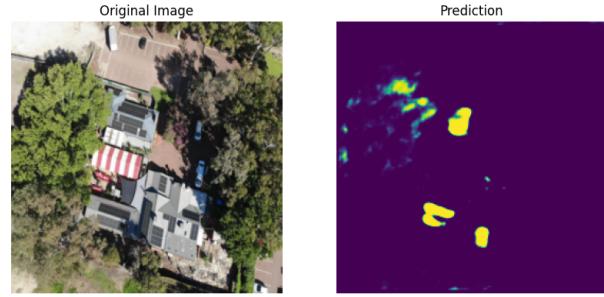


Figure 17: Test result for proactive ware's picture

## 2.4 DeepLabV3

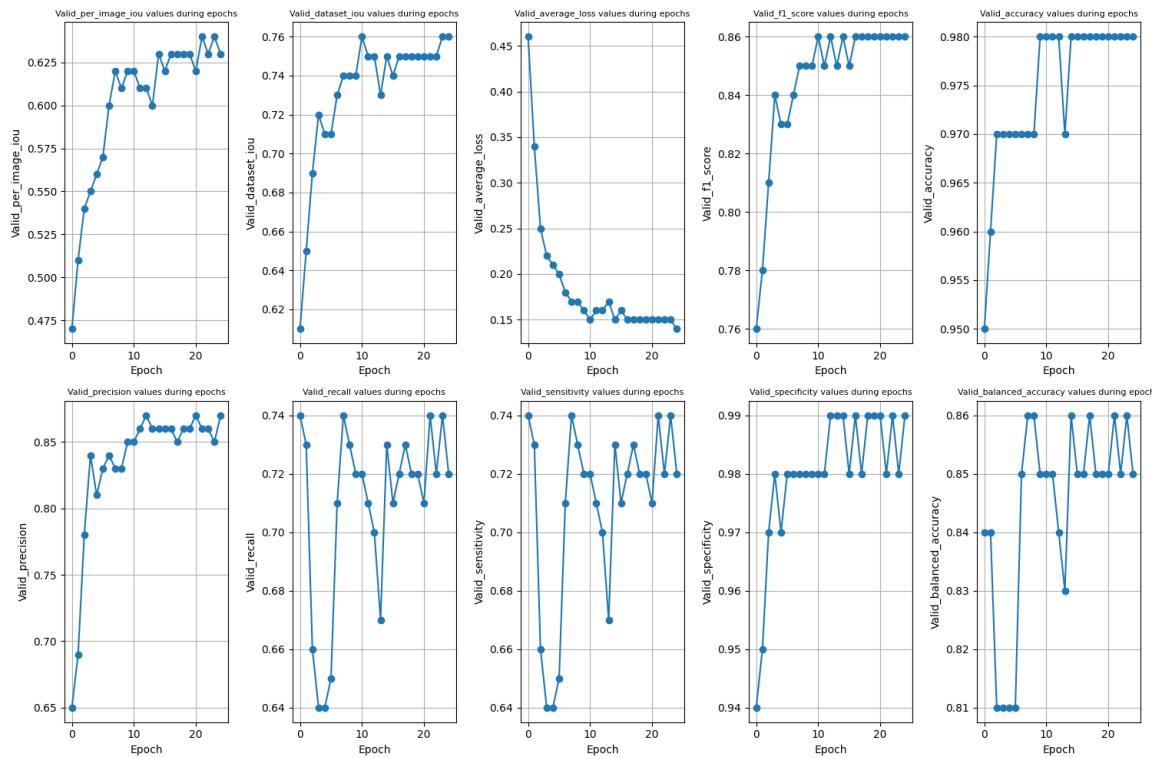


Figure 18: DeepLabV3 validation process metrics

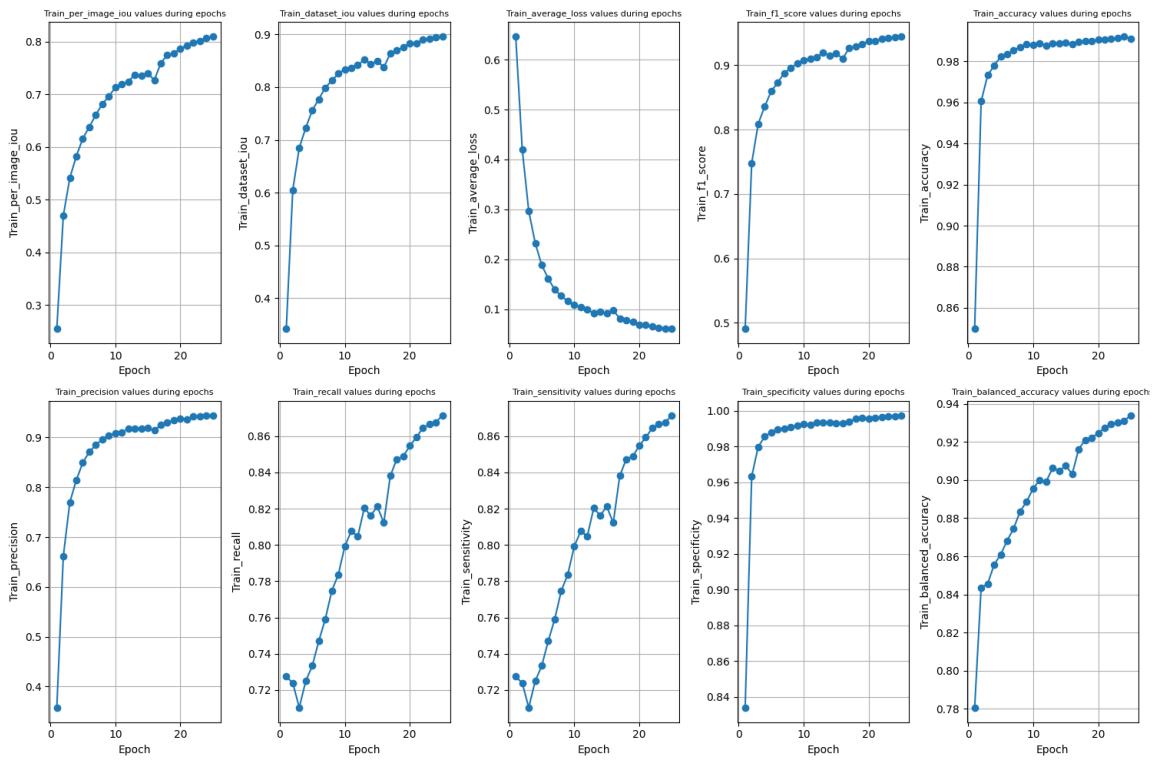


Figure 19: DeepLabV3 training process metrics

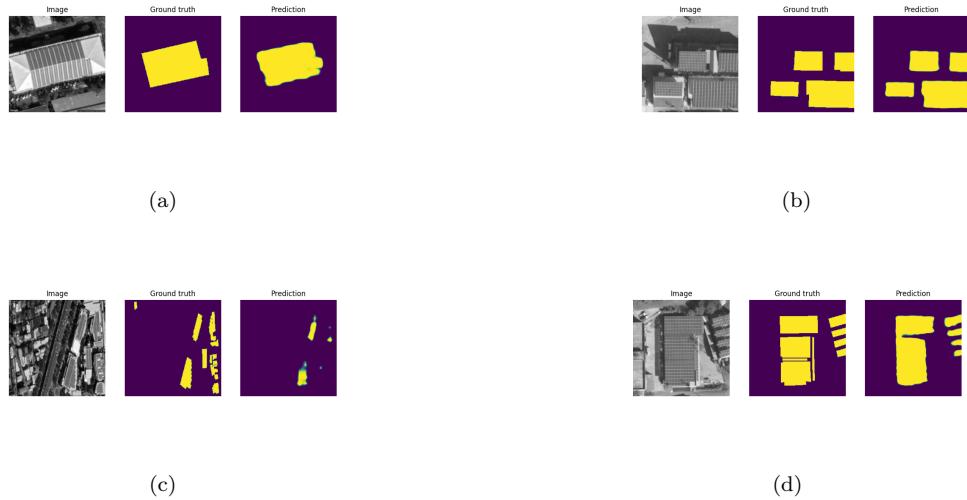


Figure 20: DeepLabV3 test set results

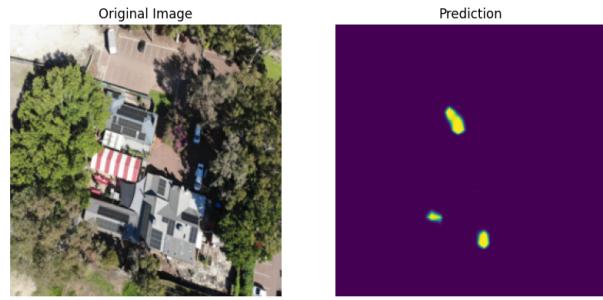


Figure 21: Test result for proactive ware's picture

## 2.5 PAN

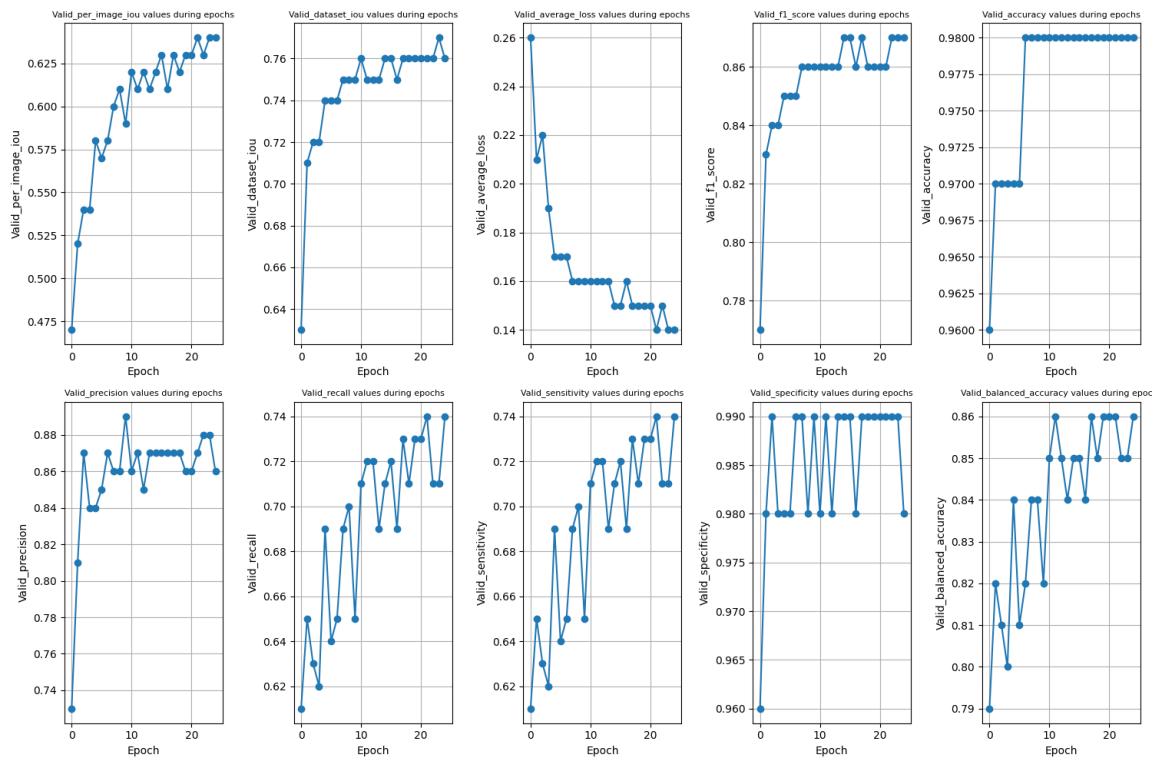


Figure 22: PAN validation process metrics

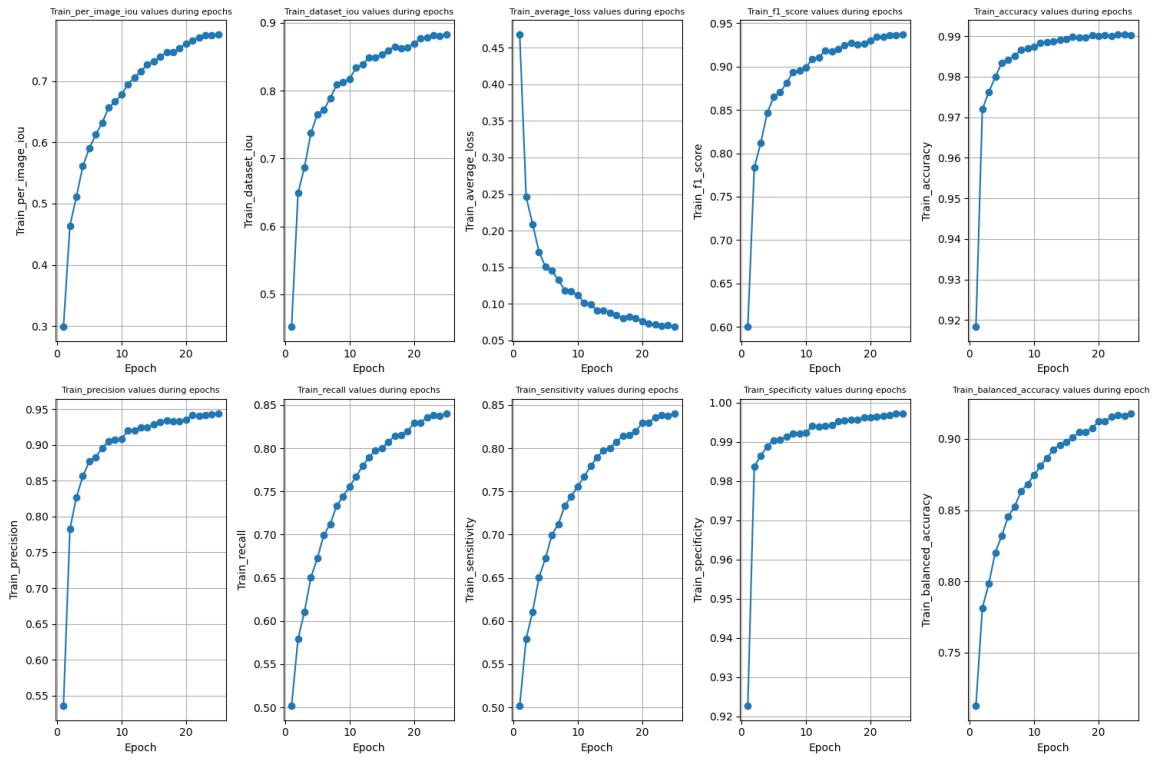


Figure 23: PAN training process metrics

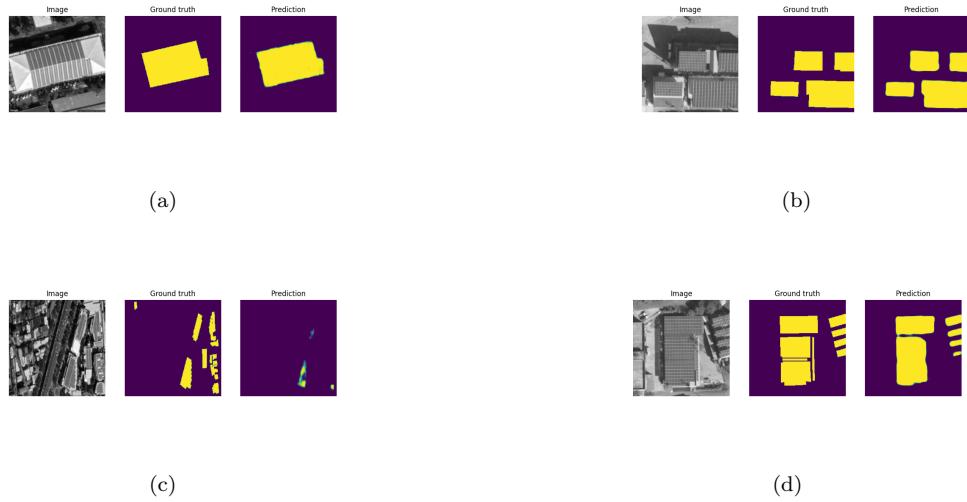


Figure 24: PAN test set results

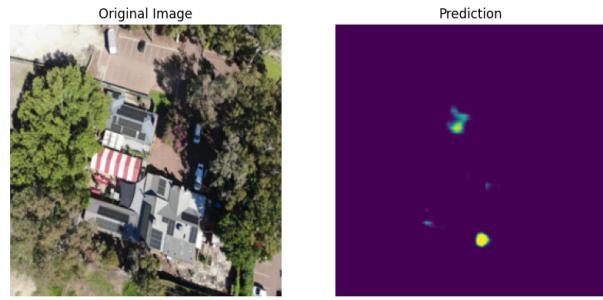


Figure 25: Test result for proactive ware's picture

## 2.6 MAnet

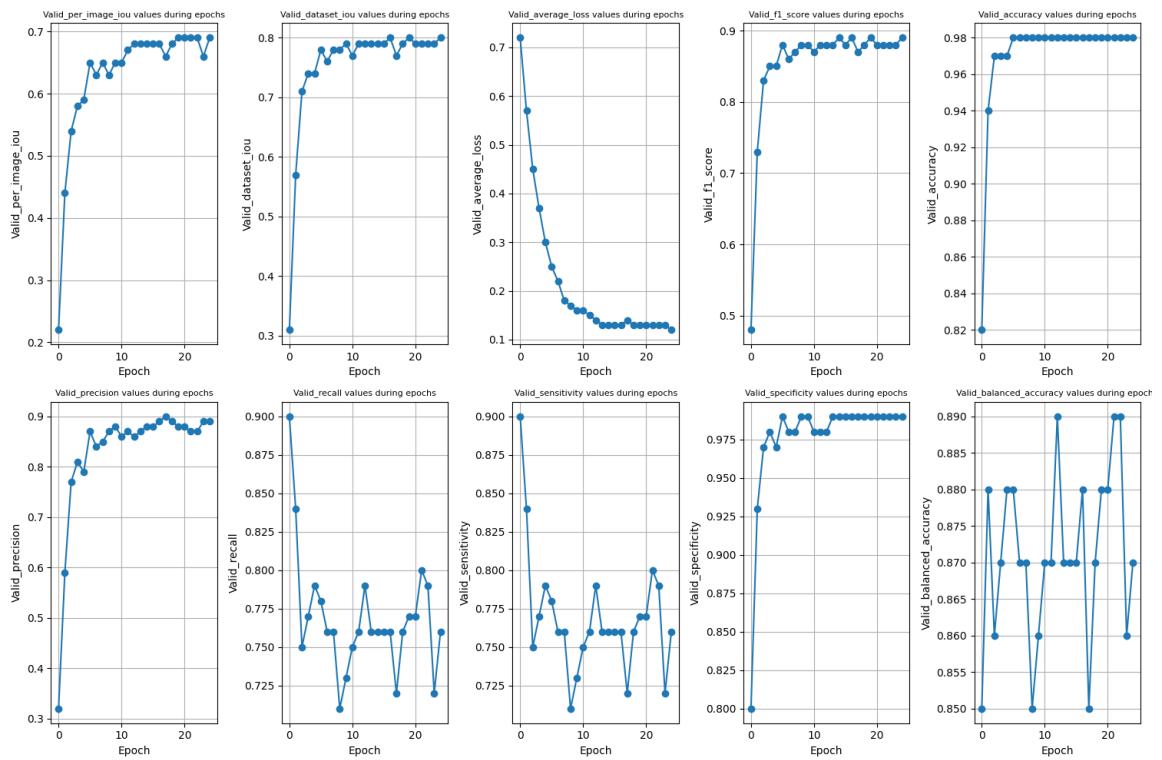


Figure 26: MAnet validation process metrics

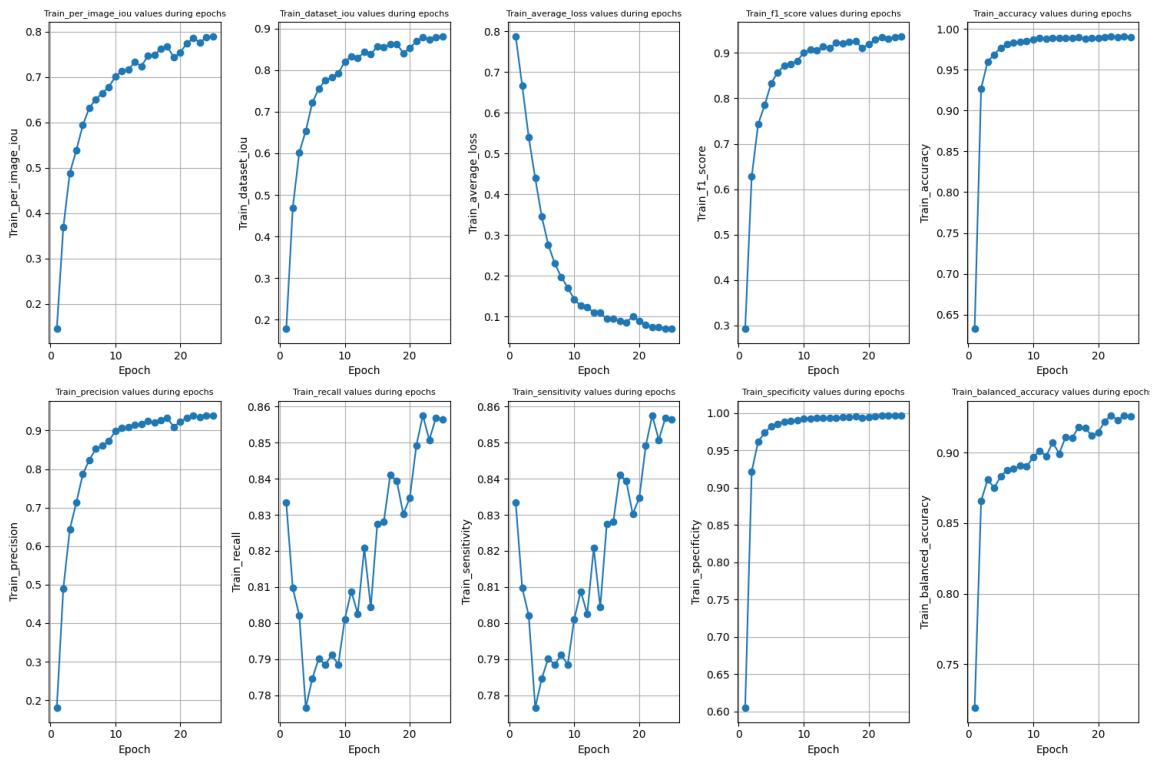


Figure 27: MAnet training process metrics

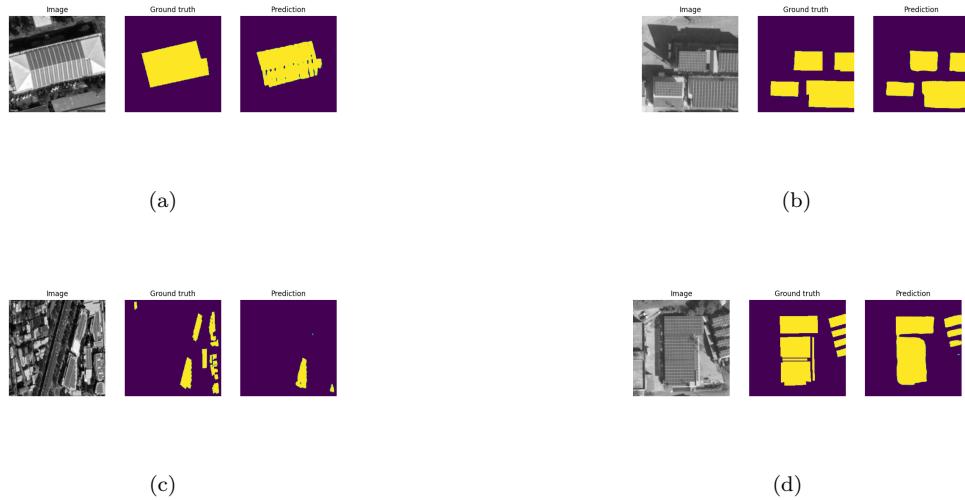


Figure 28: MAnet test set results

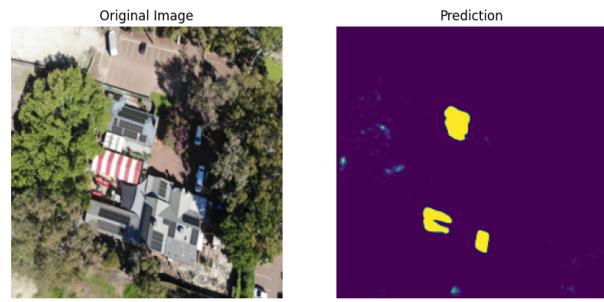


Figure 29: Test result for proactive ware's picture



## 2.7 Conclusion

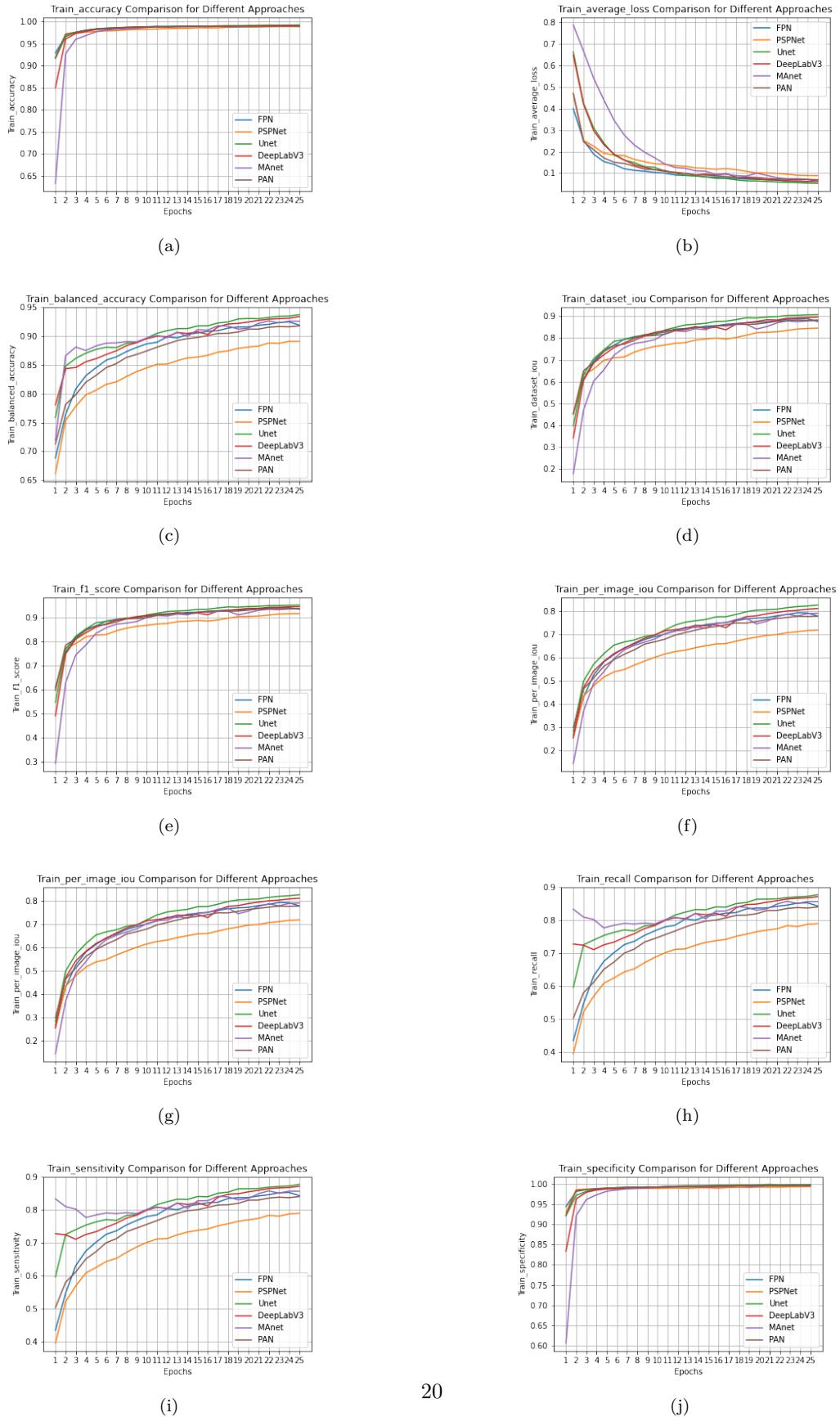


Figure 30: Training process metrics for separated neural nets

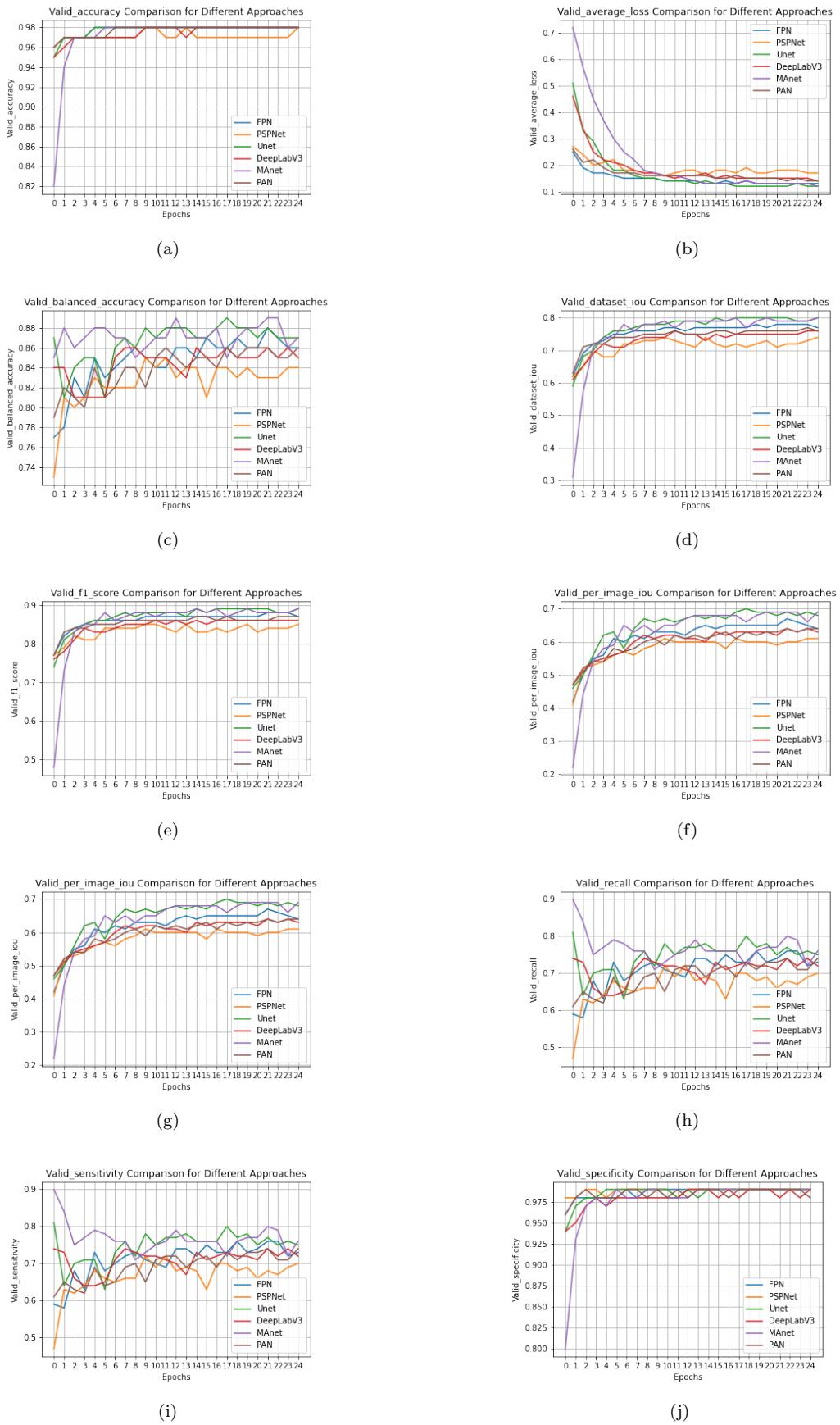


Figure 31: Validation process <sup>21</sup> metrics for separated neural nets

## **References**