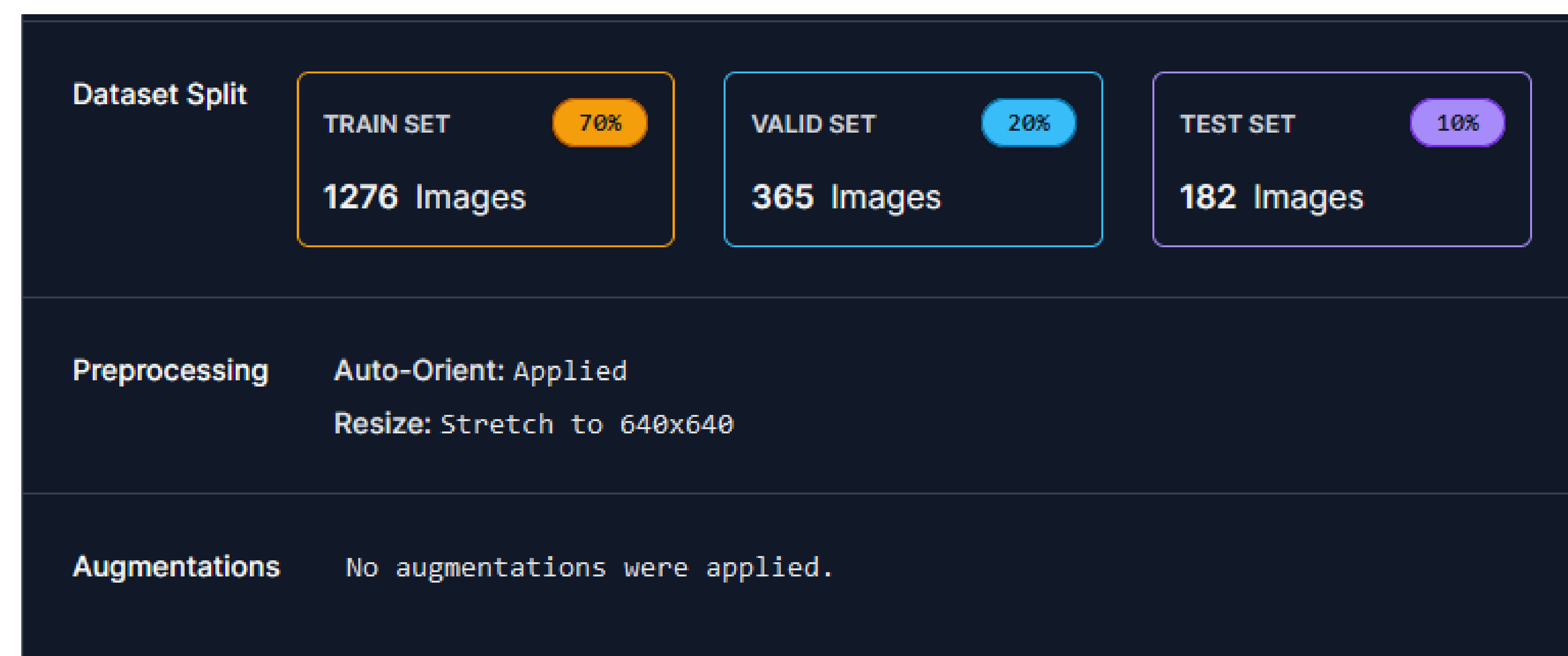


### Abstract

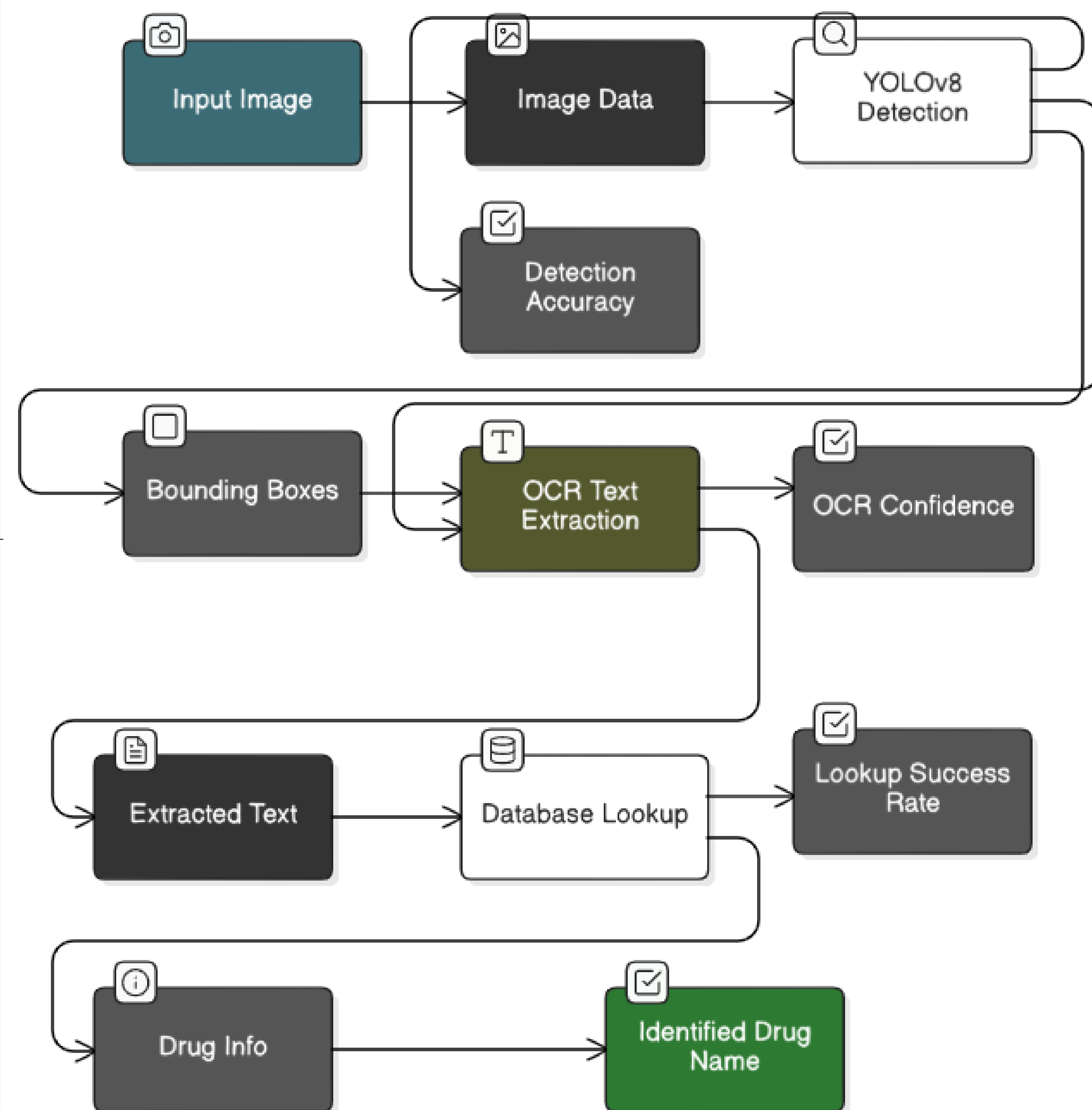
This research focuses on the automatic detection of drug names from medicine packaging, forming the first step of an OCR-based text recognition system. A YOLOv8-based object detection model was trained to localize regions containing drug names (generic or brand) on medicine packets. The detected regions can subsequently be processed using OCR to extract the actual text for database verification or pharmaceutical applications. Experimental results demonstrate that the model accurately identifies drug name regions under varied packaging conditions, enabling the development of a reliable automated drug information extraction pipeline.

### Dataset

Source : [The Drug Name Detection Dataset](#)



### Architecture Diagram

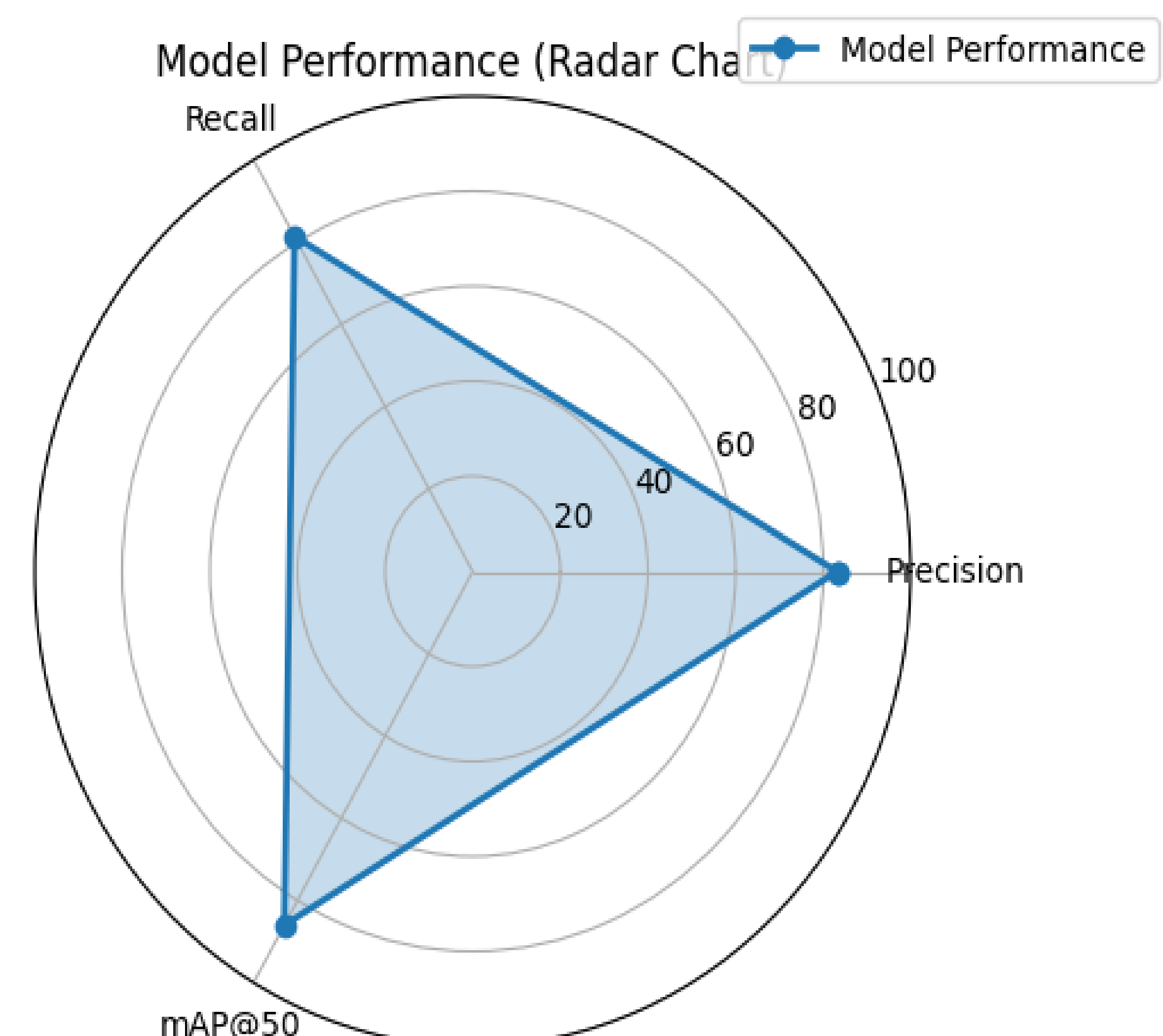


### Results

## Performance Summary

The radar chart illustrates the overall effectiveness of the model across key performance metrics

- **Precision (83.2%)** indicates a low false-positive rate most detections are correct.
- **Recall (81.4%)** shows the model successfully detects most true objects.
- **mAP@50 (86.0%)** confirms strong localization and classification accuracy at a 50% IoU threshold.



### Conclusion

The YOLOv8-based detection model successfully localizes drug name regions on medicine packets, forming the critical first stage of an OCR-driven automated drug information extraction system. While the current work focuses on detection, integrating OCR will enable complete text extraction and verification, improving medication tracking, reducing human errors, and supporting automated pharmacy management systems.