

# Indonesian Food

## Detection



# Background

The immense culinary diversity of Indonesia, rooted in the variety of ethnic groups and menus from over 17,000 islands, creates a significant challenge for regional food detection. This difficulty is compounded by variations within a single food type (Batagor) and the similarity between different dishes (Soto Banjar and Soto Ayam).

This task requires a food detection system that is trained on extensive datasets to categorize these food types. Furthermore, it must be capable of accurately locating and bounding multiple dishes within a single, complex plate (Nasi Uduk). Overcoming this problem will open up opportunities for detecting the nutrition and calories of each individual menu item.



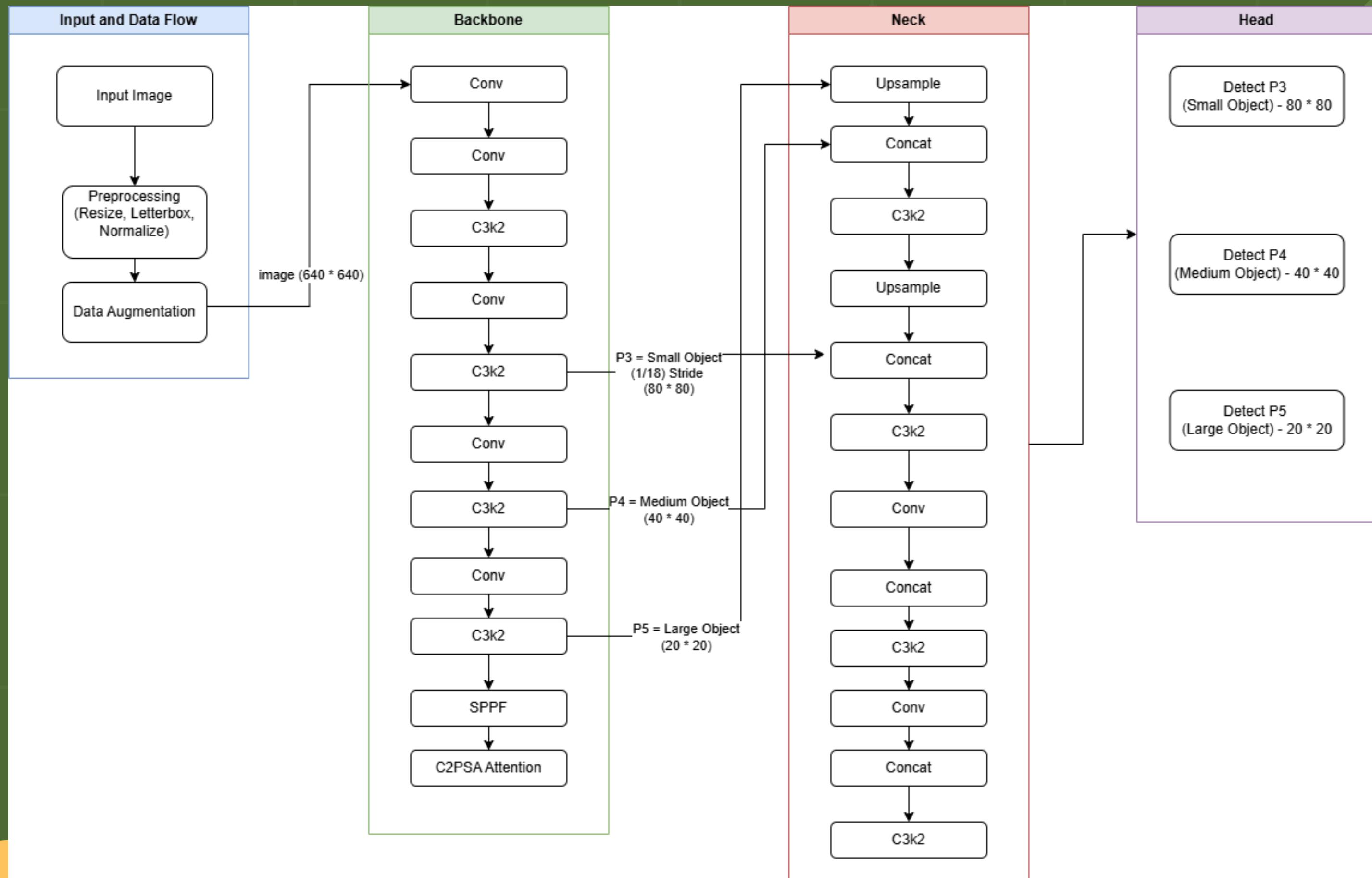
# Dataset



This dataset was collected from various open-source sources, primarily from platforms like Roboflow and Kaggle, utilizing different public data collections. The dataset encompasses 40 distinct classes of Indonesian dishes. The data Pre-processing phase included Structural Consistency Fix to ensure data format uniformity, conversion of Segmentation annotations into Bounding Boxes suitable for the YOLO format, and a Label Cleaning & Validation stage to guarantee label accuracy. Finally, the data was prepared for model training through a Train-Test Split process.

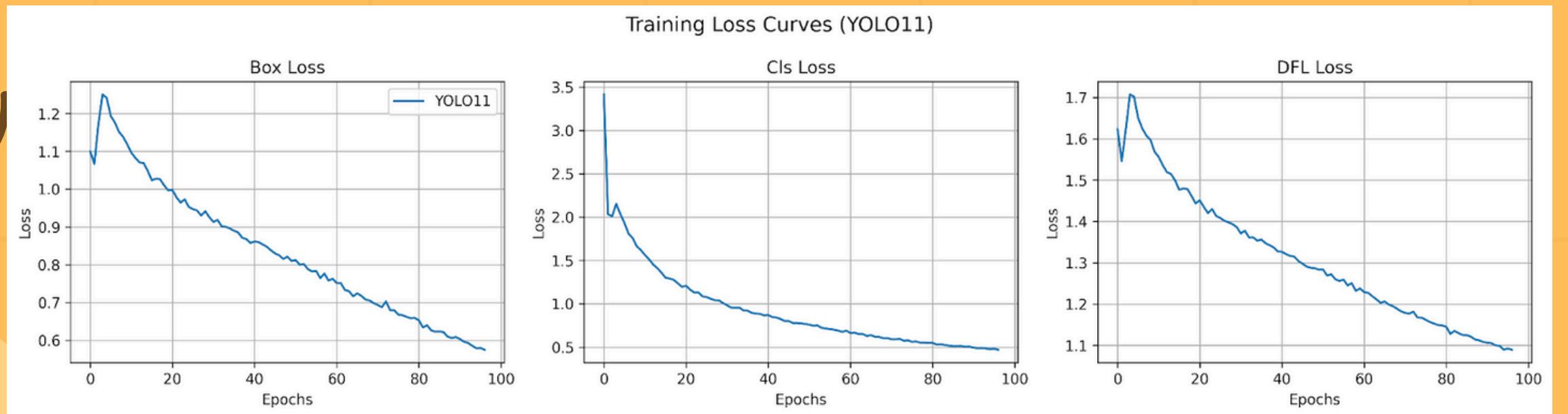


# Model Architecture



# Evaluation

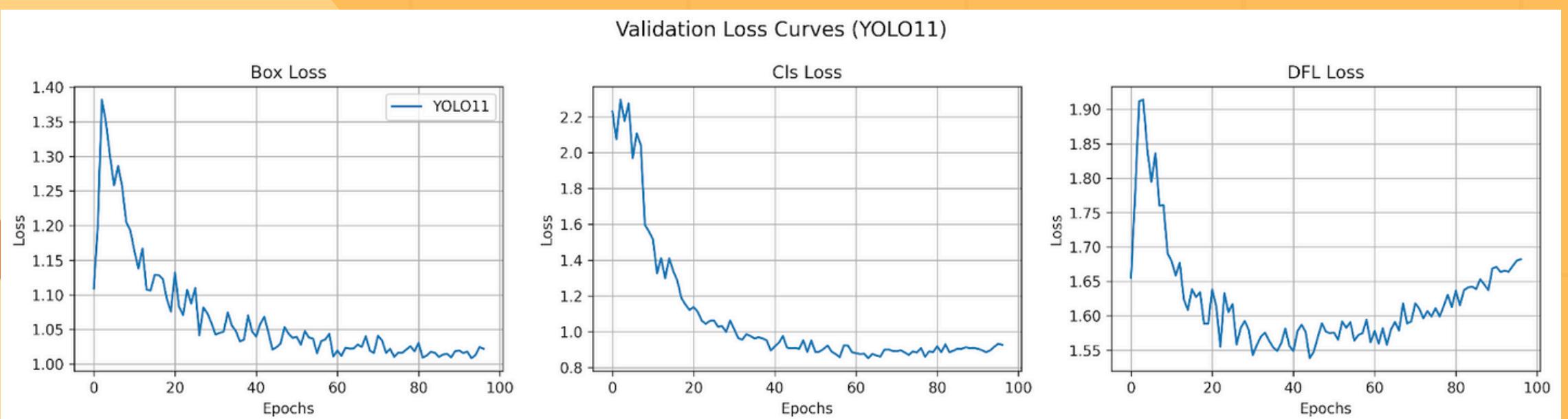
## Training Loss Curves



## Evaluation Metrics on Val Split Set

## Evaluation Metrics on Val Split Set

# Validation Loss Curves



# Demo

Model : YOLO11s

Food Detection (YOLO)

Upload an Image

Drag and drop file here  
Limit 200MB per file • JPG, JPEG, PNG, WEBP

Browse files

rsz\_telurjpg-20220302074749.webp 371.3KB

Run detection

Inference

Confidence: 0.25

IoU (NMS): 0.60

Max detections per image: 100

Classes

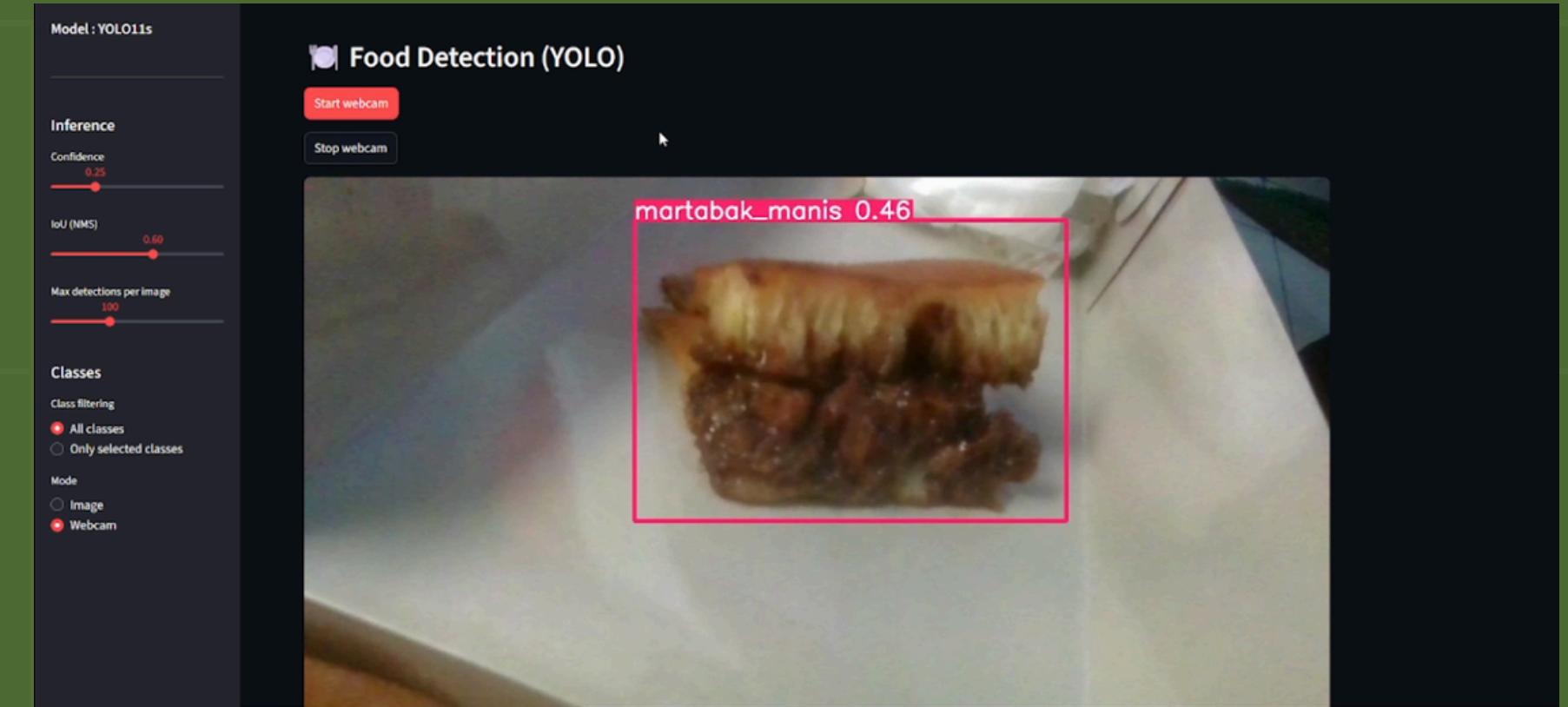
Class filtering: All classes

Mode: Image

Detections

The interface shows two images side-by-side. The left image contains two fried eggs in a white bowl, with bounding boxes and confidence scores: 'telur\_rebus 0.44' and 'telur\_rebus 0.29'. The right image shows a bowl of white rice, with a bounding box and confidence score: 'nasi\_putih 0.86'. Below the images is a table titled 'Detections'.

class_id	class_name	confidence
36	telur_rebus	0.9118
24	nasi_putih	0.8612



# Reflection

Overall, this project provided valuable insights into dataset preparation, model selection, and the practical challenges of applying computer vision techniques to culturally diverse food domains. It also opens opportunities for future improvements, such as expanding the dataset and enhancing model performance under more varied conditions.

**THANK  
YOU!**