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Object Detection and Tracking of Potatoes on a Conveyer Belt System

Ayushman Choudhuri
RWTH Aachen University
Email: ayushman.Choudhuri@rwth-aachen.de
Website: www.ayushmanchoudhuri.com

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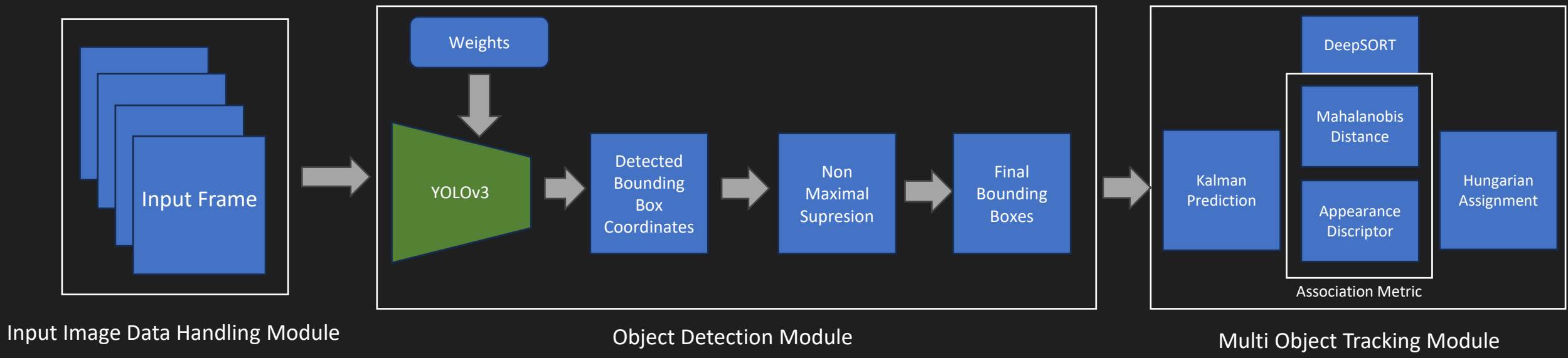
Idea



- The main idea is to detect the bounding boxes using the pretrained yolov3 model and then pass the bounding boxes to a multi object tracking algorithm such as the DeepSORT.

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Improvements

- Usage of better models such as MASK-RCNN (detectron from Meta). This would perform better than YOLO in cases where the objects are too close together, which would be a common scenario in object detection of potatoes in the field.
- Object detection and tracking on hyperspectral imaging data on the potatoes can vastly improve accuracy in the field.

Limitations

- The testing video or scenario does not replicate the actual challenges in the field such as occlusion due to rocks and dirt.
- This pipeline only considered RGB images and this can be a major limitation as differentiating between a potato and a rock would be a hard task.