AI Sack Counting at Gate

Using Computer Vision to automatically count sacks passing through a gate.

Use Cases

- Warehouses
- Manufacturing lines
- Weight stations
- Transport systems

How It Works

1. Object Detection
2. Object Tracking
3. Counting when crossing a virtual line

Dataset Preparation

- Capture frames from video
- Annotate using LabelImg or Roboflow
- Export in YOLO format

Train YOLOv8

- Use Ultralytics YOLOv8
- Prepare data.yaml
- Train using: yolo task=detect...

Object Tracking

- Use Deep SORT or ByteTrack
- Match objects across frames
- Prevent double-counting

Counting Logic

- Define a counting line in the frame
- Count only when the object crosses the line

Deploying the System

- Use RTSP/IP/USB camera
- Run model on Edge or Server
- Send data to API or database

Thank You!

Workshop: AI for Smart Sack Counting