**How I do create a Linkedin post that presents a Machine Learning project that I created which detects boxed containers in a warehouse conveyor belt using Python, Yolov8, FastAPI, Docker? It should endosre me as someone who takes initiatives in honing his Machine Learning Engineering skills using latest technology. I did not know much about model deployment into production, and I also wanted to learn about object detection. Thus I worked on this project**

First, I did the work of a Data Scientist, which is to obtain a box labelled dataset of images of containers in a warehouse, train a Yolo8 model on this dataset using Transfer Learning on training dataset, validate mAP on validation data, and infer on a few examples of training data including boxed labels around containers. Final part of this Data Science step is to save a well-performing model.

Second, I did the work of a Machine Learning Engineer, in which I create a FastAPI web application to serve the model to customers. Home page is a basic I/O based UI that lets a user upload a conveyor belt image, and when a button is clicked, the application uses the previously saved Yolo8 model to detect box containers and return the image with labels in a new page. Alternatively, I also created an API functionality that can programmatically accept a conveyor belt image as input to return as output the image with labels saved in local system.

Finally, I deployed this FastAPI based Yolov8 application as a Docker Image, which runs this application in a containerized manner, and uploaded it to Docker Hub. This means all end users can avoid the hassle of installing multiple packages needed to run the application on their system. All they need to is to simply install Docker Desktop, pull the image from the hub, run it as a Docker container and finally access the webpage as localhost:8000

Image can be found here - <https://hub.docker.com/r/agpsuai23/box_detection_image>