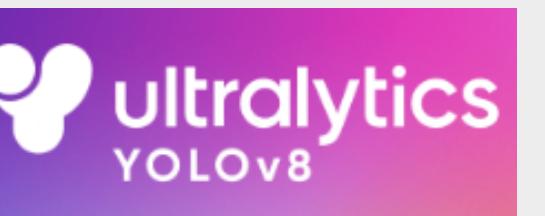




Problem Statement

Coke Detection

Using YoloV8





Brief About the Idea

We are developing an elegant coke detection object detection model utilizing YOLOv8. Initially, we will train the model using a custom dataset to identify coke products within a refrigerator. For precise object detection, we will leverage the roboflow annotation tool. Next, we will evaluate the model's performance on an unseen dataset.

Initially, we utilize a pretrained model to count all the products within the refrigerator. Subsequently, we employ a custom-trained model specifically designed to count the number of coke products. The difference between these two counts corresponds to the number of products that do not belong to the coke brand.



Prediction on the unseen dataset



Total number of detected elements (Detection): 22



Total number of detected elements (Custom): 20

Hence two products are not belonging to coke over here



Prediction on the unseen dataset



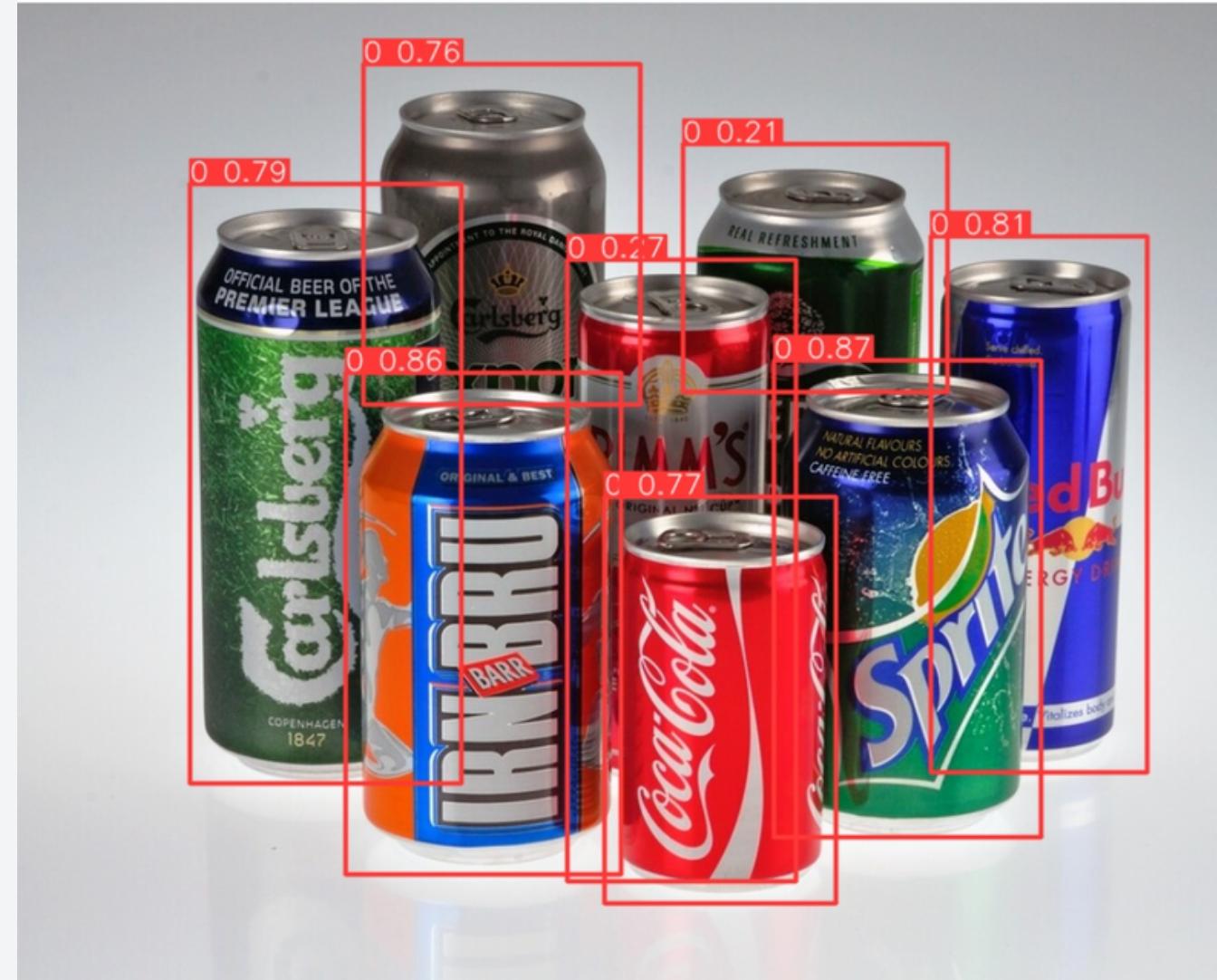
Total number of detected elements (Detection): 30

Total number of detected elements (Custom): 14

Hence 14 products are not belonging to coke over here as two of them are refrigerator



Prediction on the unseen dataset



Total number of detected elements (Detection): 8



Total number of detected elements (Detection): 2

Hence 6 products are not belonging to coke over here



Prediction on the unseen dataset



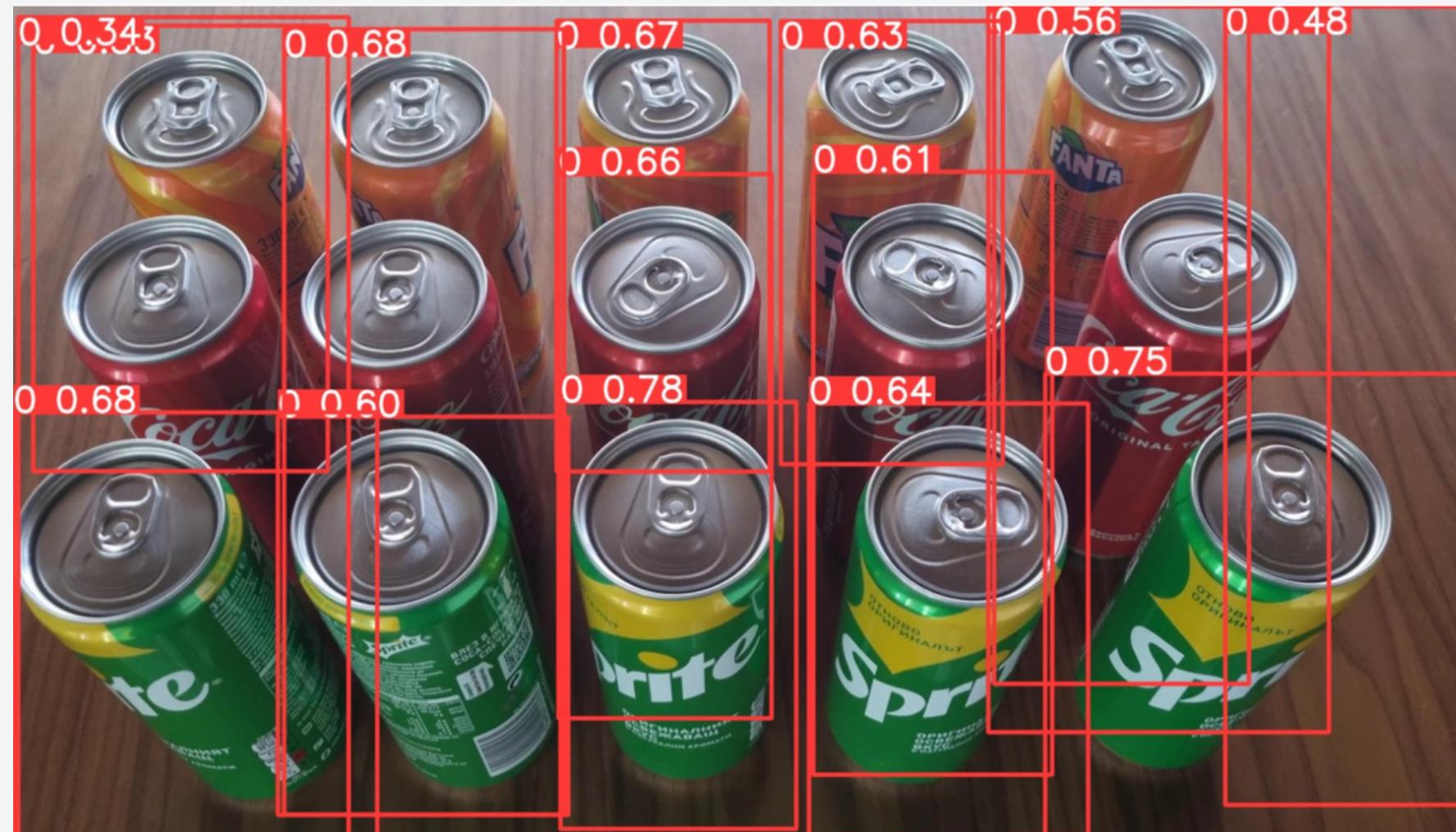
Total number of detected elements (Detection): 19



Hence 14 products are not belonging to coke over here as 1 out of them is refrigerator



Prediction on the unseen dataset



Total number of detected elements (Detection): 15



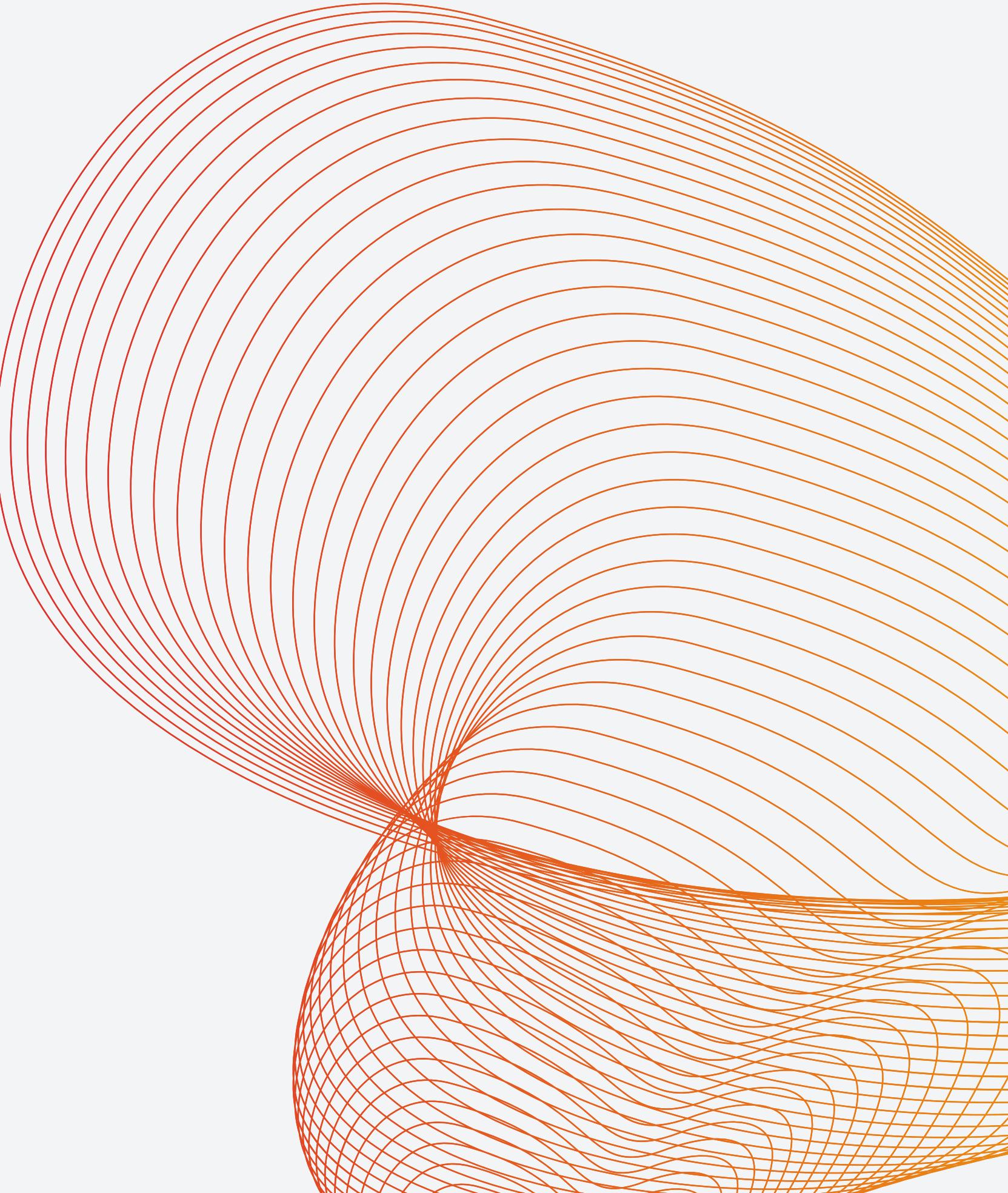
Total number of detected elements (Detection): 15

Hence all the products are belonging to coke over here



Technology Used

We leverage the widely used YOLOv8 object detection model for our project and employ the Roboflow annotations tool for data annotation. Following experimentation, we transfer the model from Google Colab to our development environment. To ensure seamless collaboration, we maintain a dedicated repository on GitHub. Finally, we create an elegant web application using Streamlit for deployment purposes.



THANK YOU

