

Bullseye Detection

-Akshat Goel

Initially, worked on collecting around 120 images of bullseyes from different sources on the internet and then annotating them using web software called CVAT. Trained the YOLOv8 model on it and then discovered that it was not training correctly, maybe due to fewer images provided. The code seemed to be fine. Discovered an online database of image datasets for Computer Vision known as Roboflow and found 799 red and white bullseye images on it. Another teammate had used this software and trained the model. That model seemed to work fine for red and white bullseyes, but it detected blue and white bullseyes as well. Added my collected images(differentiated between red and blue bullseyes) to the dataset and augmented the images. These images turned out to be around 2300 in number. Now, I trained the YOLOv8 model on the dataset for 3 epochs. Took around 3 hours(phew!). After that, I tested the model, and it worked excellently for red and white bullseyes and it did not detect blue bullseyes! After that, I also wrote the code for detecting bullseyes in real time using my laptop's webcam. It detected a 6.8 cm bullseye at a distance of about 55 cm from the webcam(basically a distance-to-diameter ratio of about 8).

[ultralytics/ultralytics: Ultralytics YOLO11](#) 

[Leading Image & Video Data Annotation Platform | CVAT](#)

[Roboflow: Computer vision tools for developers and enterprises](#)

[Train YOLOv8 object detection on a custom dataset | Step by step guide |](#)

[Computer vision tutorial - YouTube](#)

To do:

- Try to increase the number of epochs and train the model.
- Try and use YOLOv11.
- Add small bullseyes to the image dataset to detect bullseyes at a greater distance.

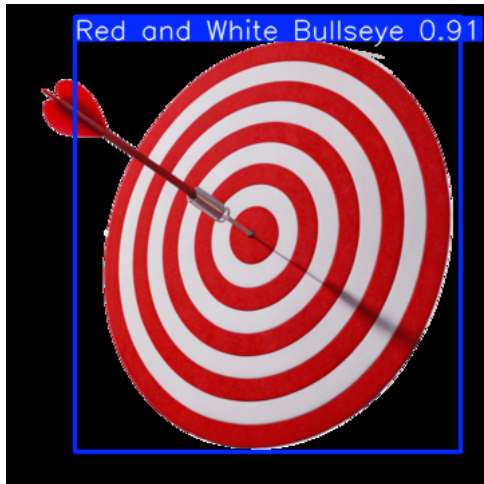


Image Detection



Livestream Detection