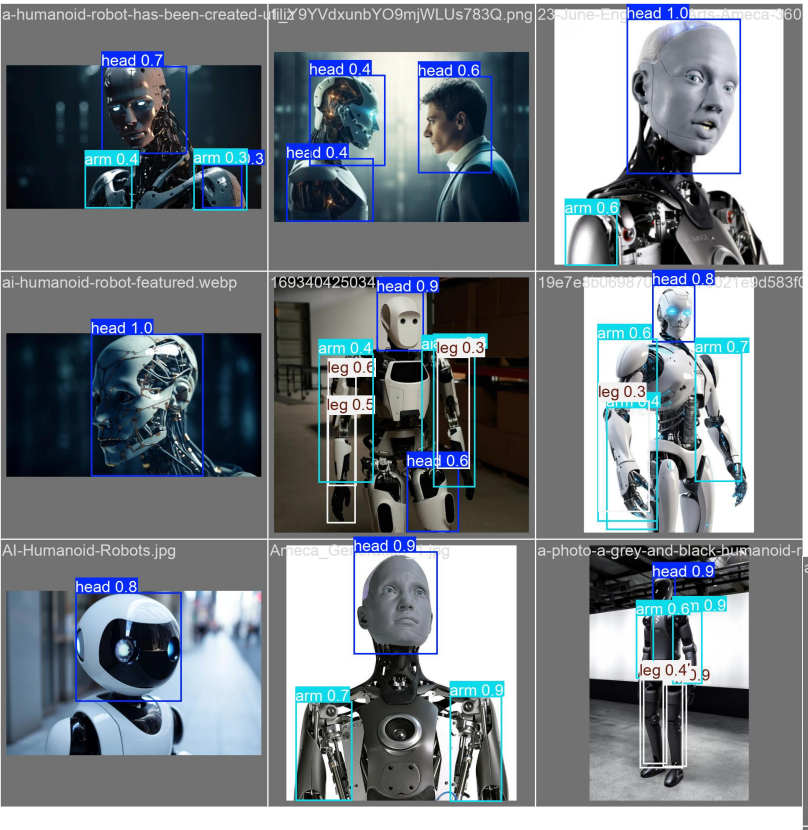
Object detection model with YOLO for identifying components of a humanoid robot

It took a lot of efforts to get the dataset for this model and to make annotations for the images in the dataset and it took intense efforts to keep the dataset accurate while also keeping it large enough to fine tune model properly. In this, no dataset was available so I created my own dataset using google images and labelling them on labelme. In this, I was initially getting low accuracy in model due to very small dataset size for fine tuning. But, using data augmentation, I was able to get through the problem.

All the test performances as well as prediction images are attached in code and folder alongith various visualisation curves like Confusion matrix, P_curve, R_curve etc



Predicted