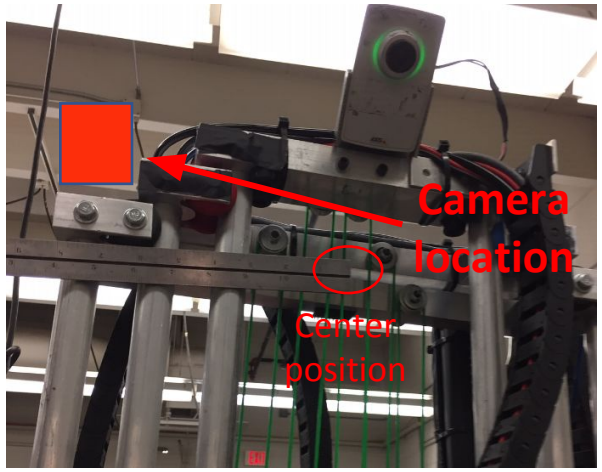
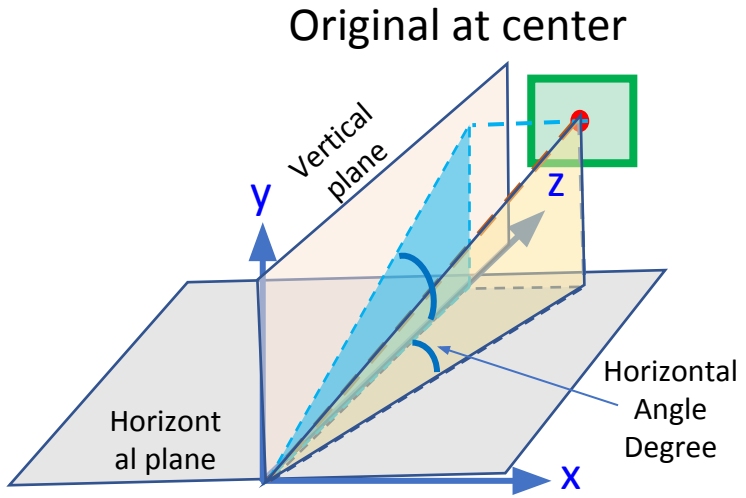
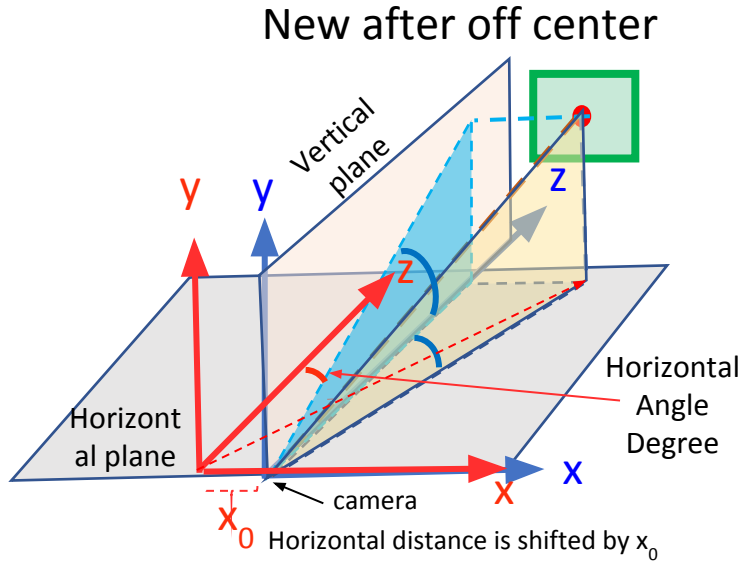
Others – Compensation of Camera Off Center on Robot







Total_Distance_Inch = ((standard_height_p/cube_height)*CAL_DISTANCE_INCH);

Horizontal_Distance_Inch = (object_center_x - im_center_x) *CAL_DISTANCE_INCH /object_size_in_p_at_cal;

Comp_ Horizontal_Distance_Inch = Horizontal_Distance_inch + x0; % because camera at right side of robot when facing to object

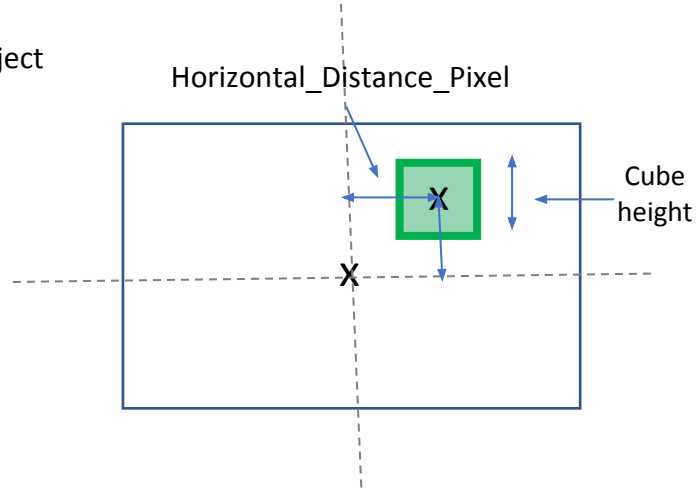
Vertical_Distance_Inch = (im_center_y - object_center_y) *CAL_DISTANCE_INCH/ **object_size_pixel_at_cal;**

Horizontal_Angle_Degree = atan(Comp_Horizontal_Distance_in/CAL_DISTANCE_INCH)*180/PI;

Vertical_Angle_Degree = atan(Vertical_Distance_Pixel/(pixel_per_in*CAL_DISTANCE_INCH))*180/PI;

Forward_Distance_Inch = Total_Distance_Inch*cos(Vertical_Angle_Degree*PI/180)*cos(Horizontal_Angle_Degree*PI/180);

Actual_Distance_Inch = Total_Distance_Inch*cos(Vertical_Angle_Degree*PI/180)



"Actual_Distance_Inch" and "Horizontal angle in degree" are considered.

Note that angle and distance are updated per every image