

Journal 12

Throughout this past week, I primarily focused on implementing my depth conversion factor to accurately scale my depth calculation across all different types of vehicles: cars, motorcycles, trucks, etc. In order to do this, I had to first find dashcam videos in which there were two different types of vehicles than run my ordinary depth calculation algorithm. Because both of these vehicles should be at the same relative depth, I can first calculate the error in my original calculation and then determine the scale factor between to correct it. For instance, if there were a car and motorcycle at the same depth in a dashcam video my algorithm would incorrectly label the motorcycle at being a higher depth because the motorcycle's bounding box would be smaller. To rectify this, I will find the scale factor which I could multiply with the motorcycle's depth so that it is equivalent to the car's calculated depth. To illustrate with an example, if the car's relative calculated depth is 1.00 and the motorcycle's relative calculated depth is 2.00, my scale factor would be $(1.00/2.00) = 0.50$. So, anytime I calculate the depth of a motorcycle I would scale it by 0.50 so that it is representative of its actual depth. I am generalizing this algorithm by making a car's depth the standard of comparison. I have calculated the scale factor for motorcycles to be 0.56 and for trucks to be 1.45. I am currently using this conversion factor in order to ensure that my algorithm is only predicting vehicles as "crashing" if they are around the same relative depth.