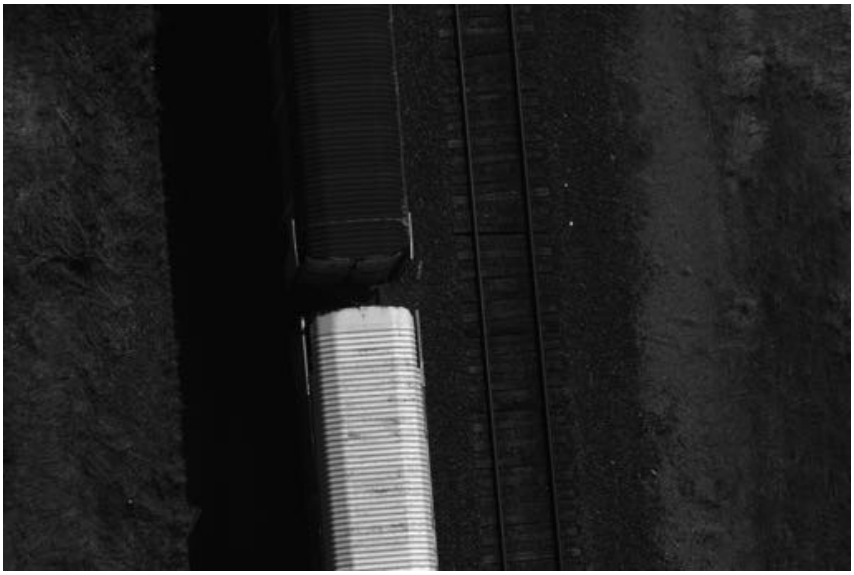
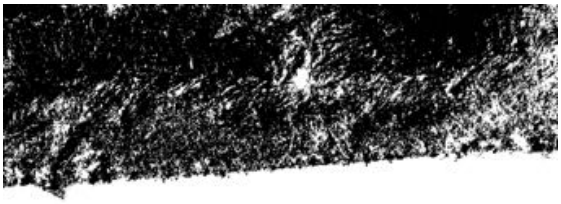
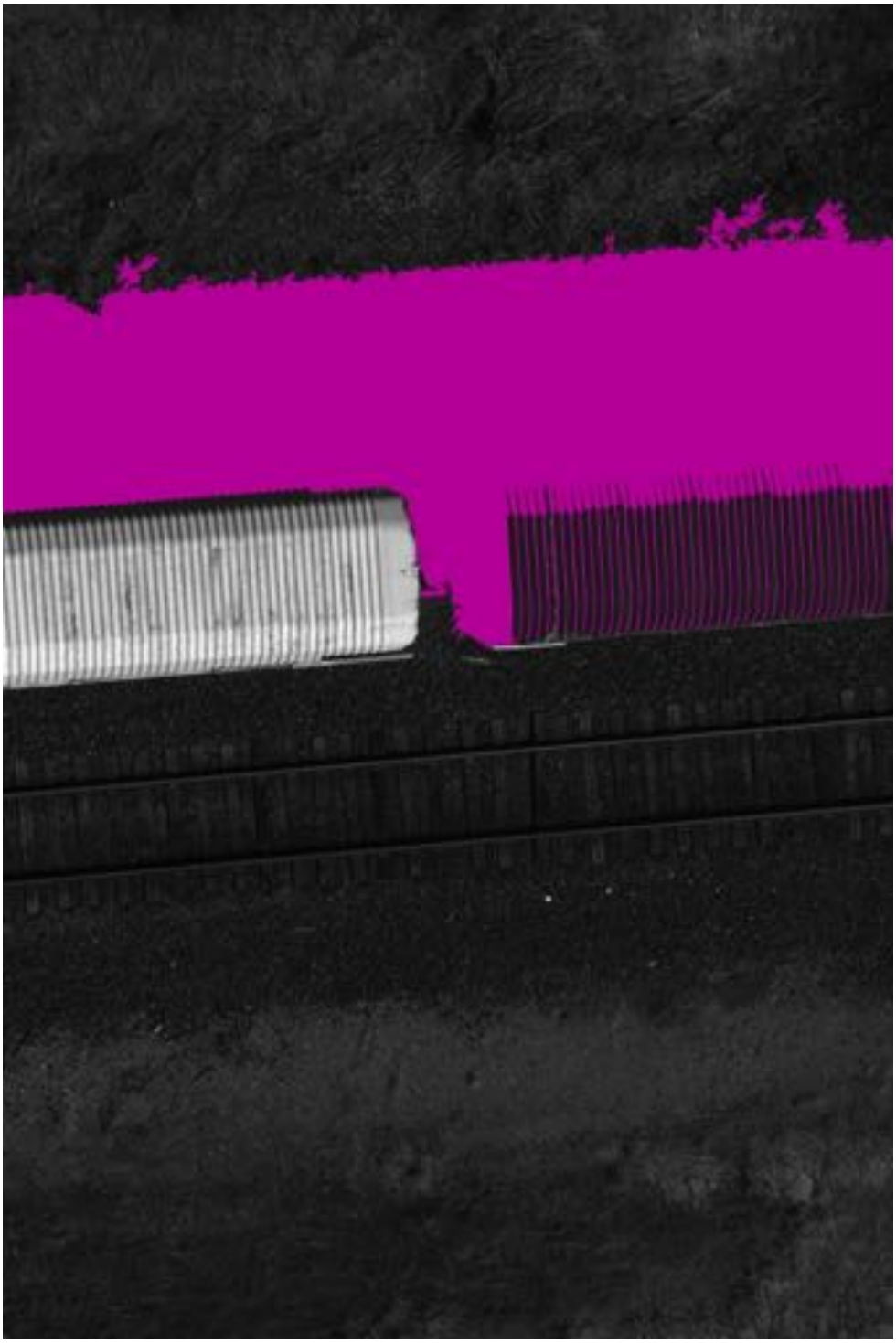
Original image:



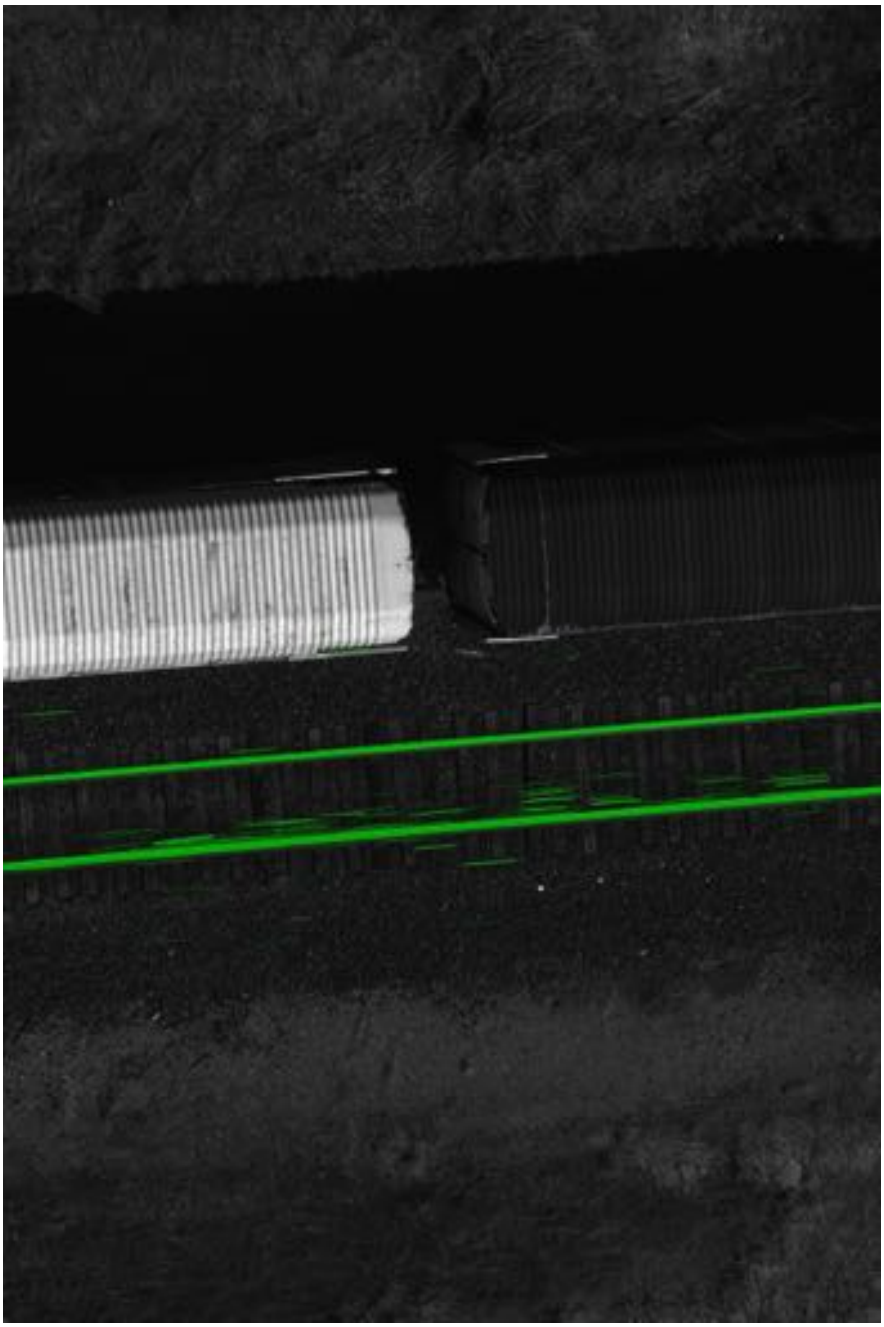
Rotate and isolate the shadow and highlight:



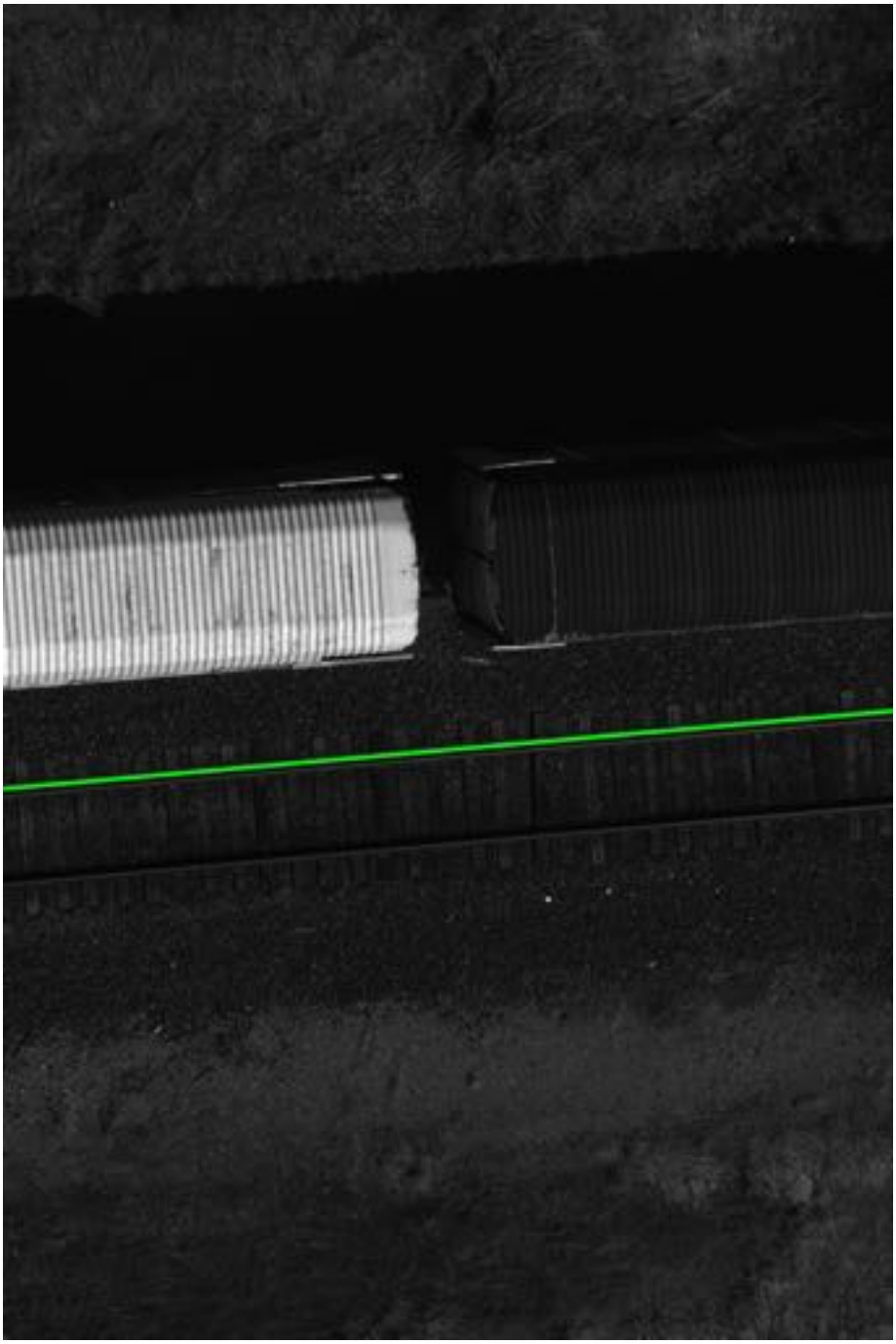
Find the contours and eliminate the objets whose area is too large such as a lake, a train and its shadow, shadow of trees.
The purple parts are the already removed areas, so it will ignore that part when detecting lines. This helps to deduce the running time and error



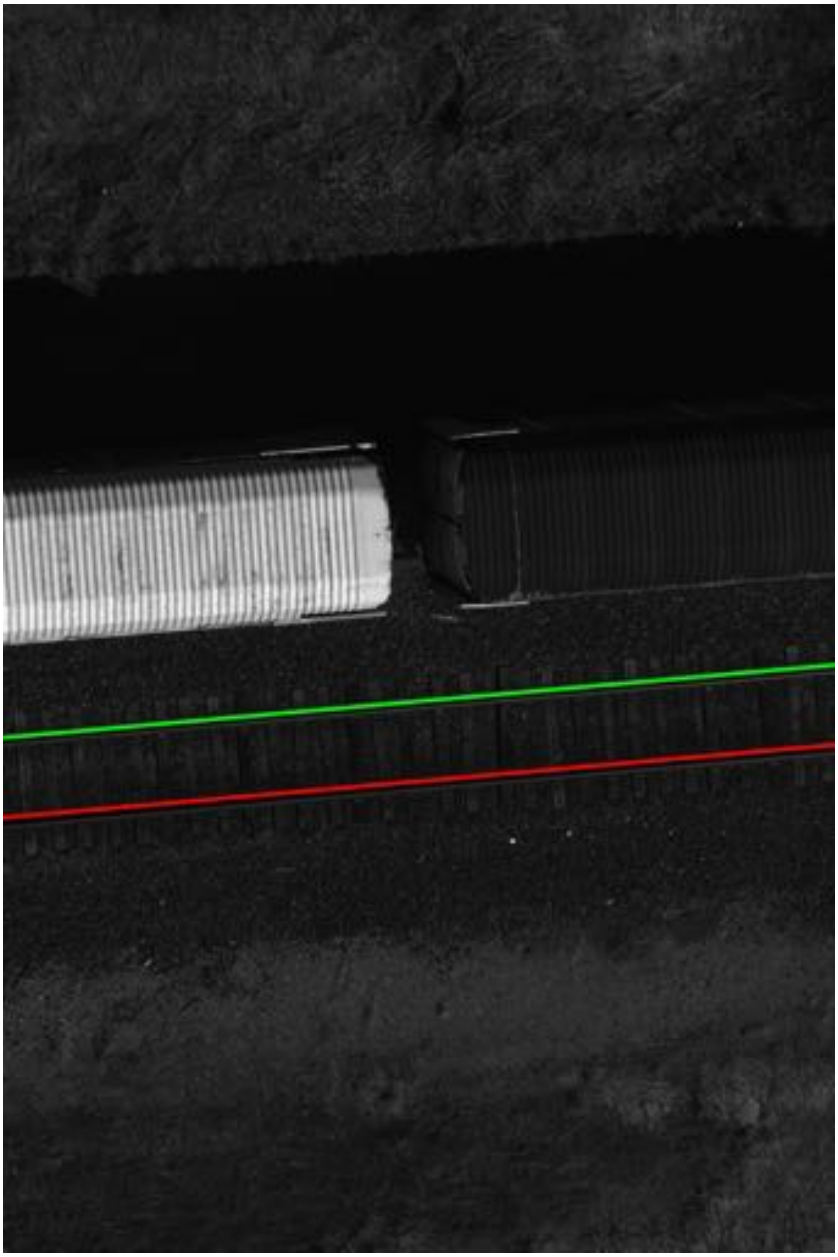
Detect lines using Hough Transform algorithm. Ignore lines that are not horizontal or in the top or bottom of the image.
Use priority queue to sort the lines by length (lines has longest length in the beginning of the queue)



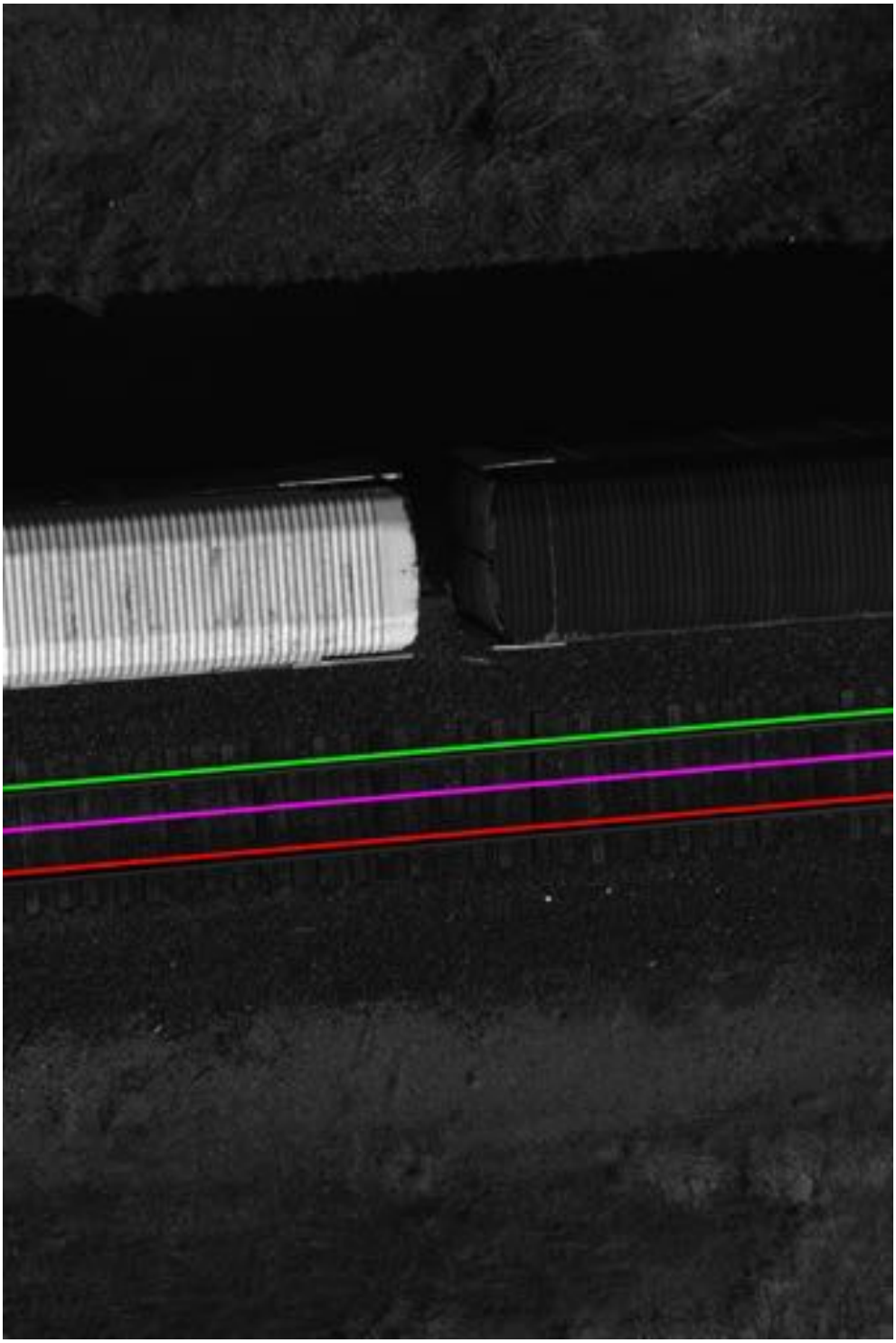
The first line in the queue (longest line) is likely the first track.



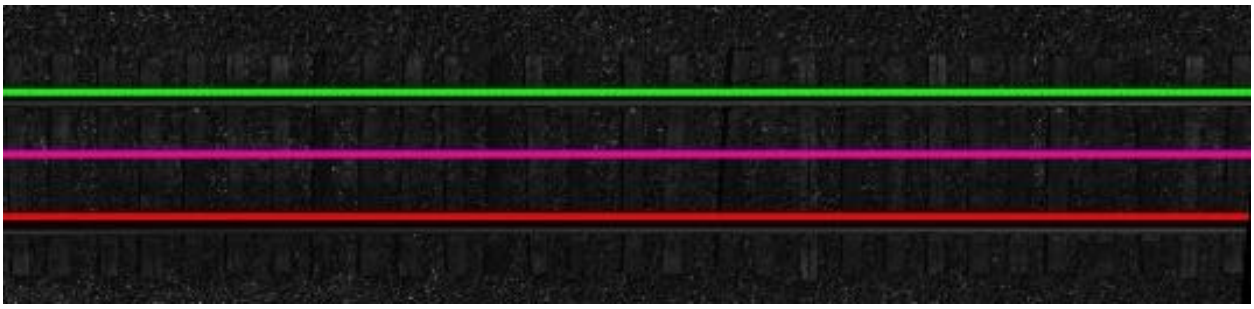
Find the second track from the queue which has longest length, is parallel to the first tract, not on a same line with track 1, and the distance between 2 lines is in valid range.



Compute coordinates of center line using average values of track1 and track2



Compute angle of center line, rotate and crop:



Stitch all cropped images: