LM3
Technologies

# PAQi Object Detection

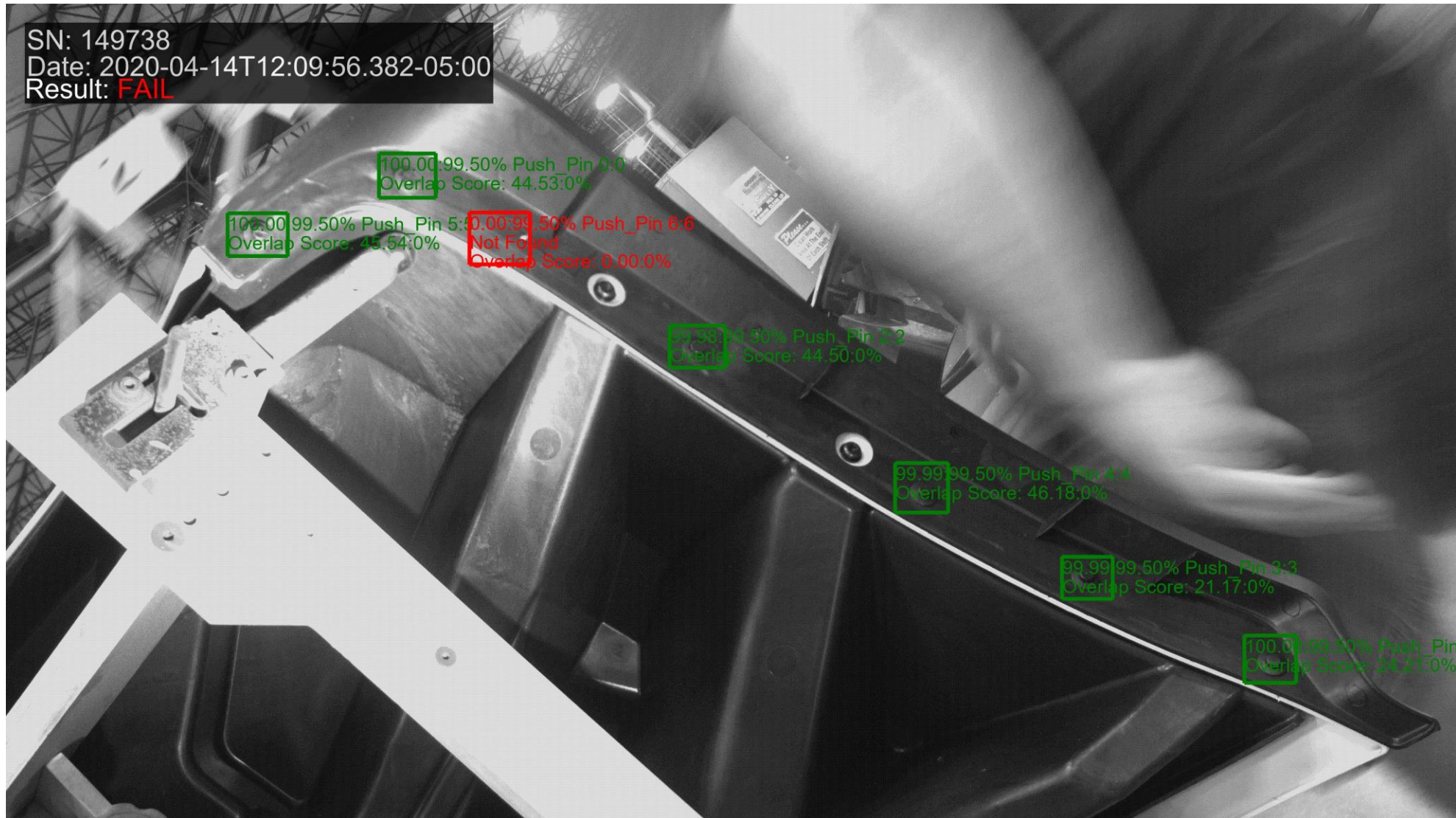## Push Pins on Bumpers

Left side of bumper – part is approximately 40" long with 7 .3125" diameter push pins black on black and two similar looking screws
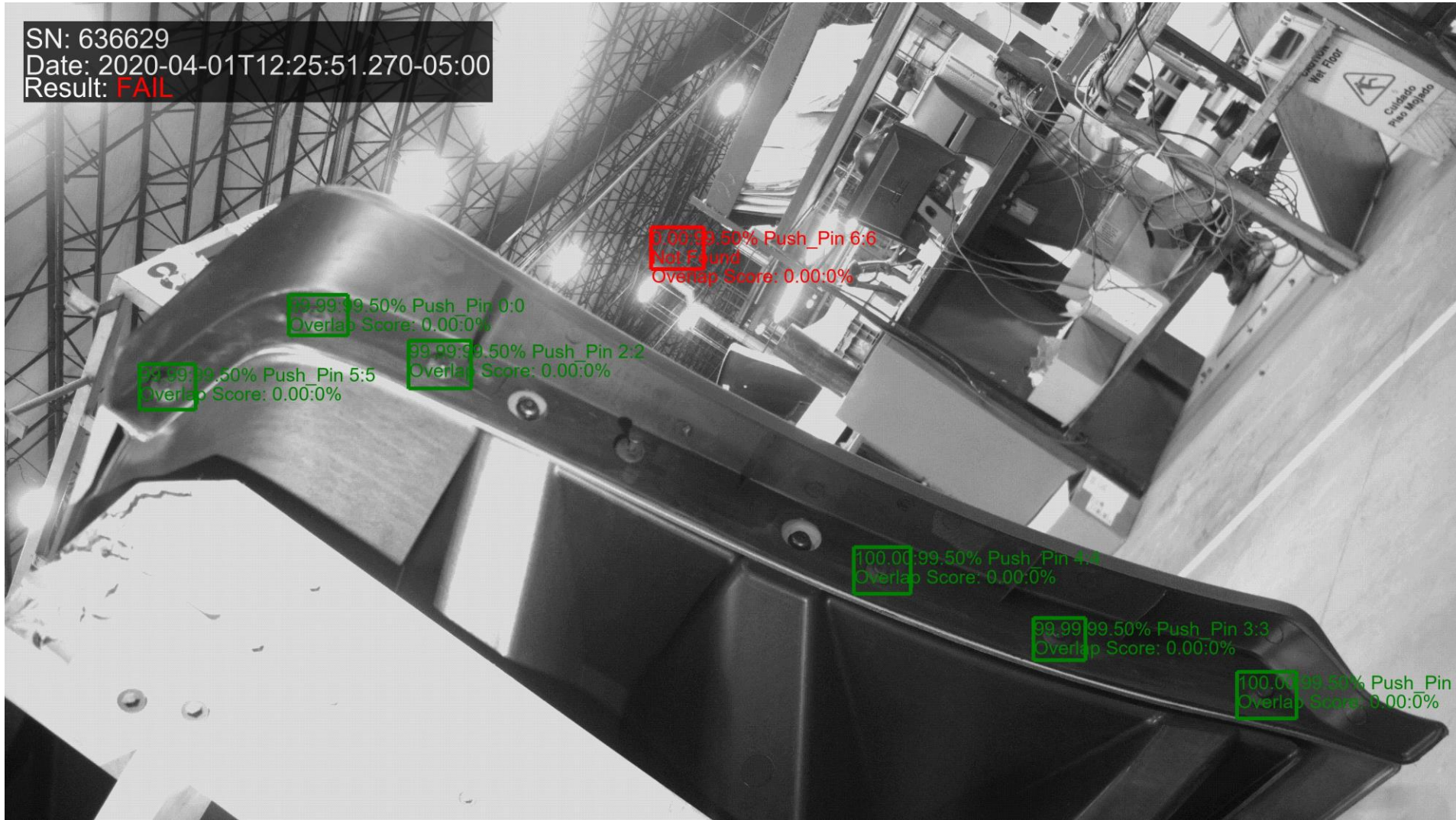
Right side of bumper – part is approximately 40" long with 7 push pins and two similar looking screws. Notice the background of this one is white.

Missing push pin – notice the operator working in the area and distorting the background of the images

Push pin not pushed in

# Advantage Over Other Systems

- One camera can be used at a long distance from the part to clear the area for assembly.
- Traditional system are unable to detect small black parts on black backgrounds
- Our system is able to detect small objects anywhere in the field of view regardless of rotation. This particular fixture has a lot of rotational backlash.
- One trained model can be used for the left and right side as well as two different assembly fixtures with slight differences in camera angle and fixturing.
- Used a simple blue LED to highlight push pin in corner of part.
- Cost of system is significantly less than traditional system that would require up to 14 smart cameras at $1500/camera plus integration