Real Robot

DT Robot

DT/MARS-CycleGAN

Crop Row Detection

Cycle & DT-MARS Consistency

x_r

$G_{real-sim}$

$G_{sim-real}$

D_{real} D_{sim}

x_s

$G_{sim-real}$

$G_{real-sim}$

Cycle & DT-MARS Consistency

Crop Row

RANSAC

YOLOv8

$F_{C_{back}}$ $F_{C_{front}}$

F_R x

$F_{C_{bottom}}$

$\theta_{BackCam}$ $\theta_{FrontCam}$

620

863

900

1150

1000

600

Unit: mm