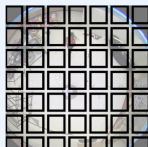




CCTV Footage

Zone-Based Background with Dynamic ROI Storage



Global zone grid

Coarse
Region

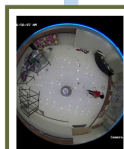


Active zones detected
(red/orange)

ROI extraction
for active zone



Contour
extraction



Detection Z_t



Detection Z_t

frame t

Person Failed
by Yolo

Detection
with velocity
tracking

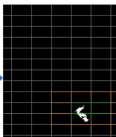


Detection Z_{t+n}

Contour Affirmation



CHURI
Detection



frame $t+n$

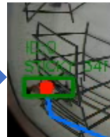
Person Failed by
Yolo due to
Occlusion



Detection Z_{t+2n}



Detected by
CHURI



Tracker

frame $t+2n$

ID = 0

Person

Yolo called 2/90

Contour Tracked



Contour
Confirmation