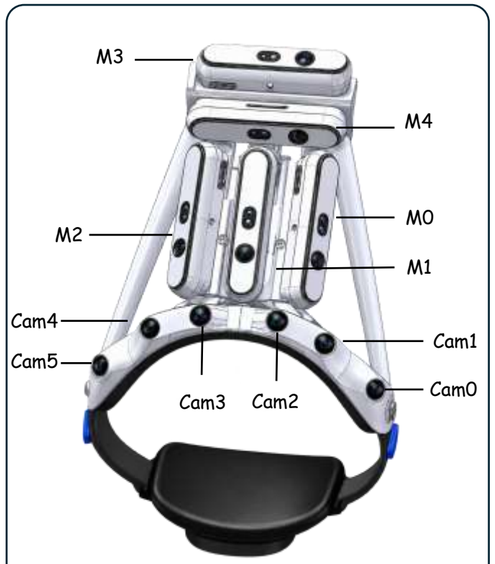
Capture Rig



6 Fisheye RGB | **5 Active-IR Stereo**

Egocentric manipulation



Reception Lobby | Beverage Counter



Utility Room | Clinical Workspace

...

Per-Module GT Construction

M0



Rectified IR Pair → FoundationStereo



Onboard Hardware Depth → HW Pre-filter

FoundationStereo + HW Pre-filter → FS-HW Consistency Gate

M1



Rectified IR Pair → FoundationStereo



Onboard Hardware Depth → HW Pre-filter

FoundationStereo + HW Pre-filter → FS-HW Consistency Gate

M2



Rectified IR Pair → FoundationStereo



Onboard Hardware Depth → HW Pre-filter

FoundationStereo + HW Pre-filter → FS-HW Consistency Gate

M3



Rectified IR Pair → FoundationStereo



Onboard Hardware Depth → HW Pre-filter

FoundationStereo + HW Pre-filter → FS-HW Consistency Gate

M4



Rectified IR Pair → FoundationStereo



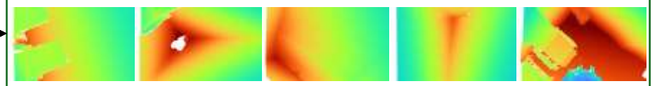
Onboard Hardware Depth → HW Pre-filter

FoundationStereo + HW Pre-filter → FS-HW Consistency Gate

Collect 5 gated depth maps

Projection and GT Fusion

Gated FS Depth



M0 M1 M2 M3 M4

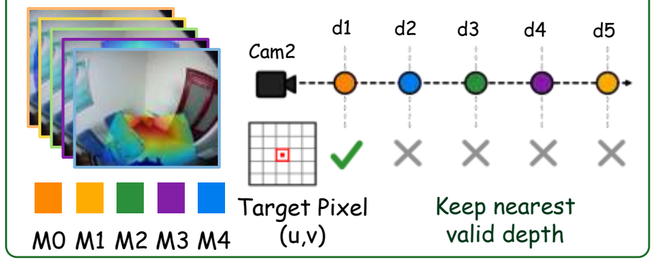
Projection

Project to Cam2

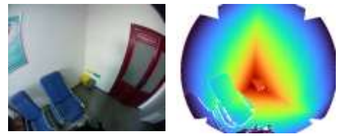


M0 M1 M2 M3 M4

Z-buffer Fusion



GT Z-depth (Cam2)



Primary benchmark view
512 × 416 px
float16 · metric depth
Eval. range: 0.25–2.0 m