

Challenge: Scale



Why template matching fails:

Different object sizes in the room illustrate scale variability; matching fails as templates are size-dependent.

Challenge: Illumination



Why template matching fails:

Strong light/shadow differences across objects cause template matching to fail due to pixel intensity mismatch.

Challenge: Occlusion



Why template matching fails:

Overlapping furniture or objects show occlusion, making it difficult to match hidden features.

Challenge: Deformation



Why template matching fails:

Soft pillows or curved surfaces deform, showing why non-rigid objects cannot be matched by rigid templates.

Challenge: Background_Clutter



Why template matching fails:

Many similar items (decor, vases, patterns) create background clutter, leading to many false template matches.