

Cinematic Virtual Reality with Head-Motion Parallax

Jayant Thatte (jayantt@stanford.edu) and Bernd Girod
Department of Electrical Engineering, Stanford University

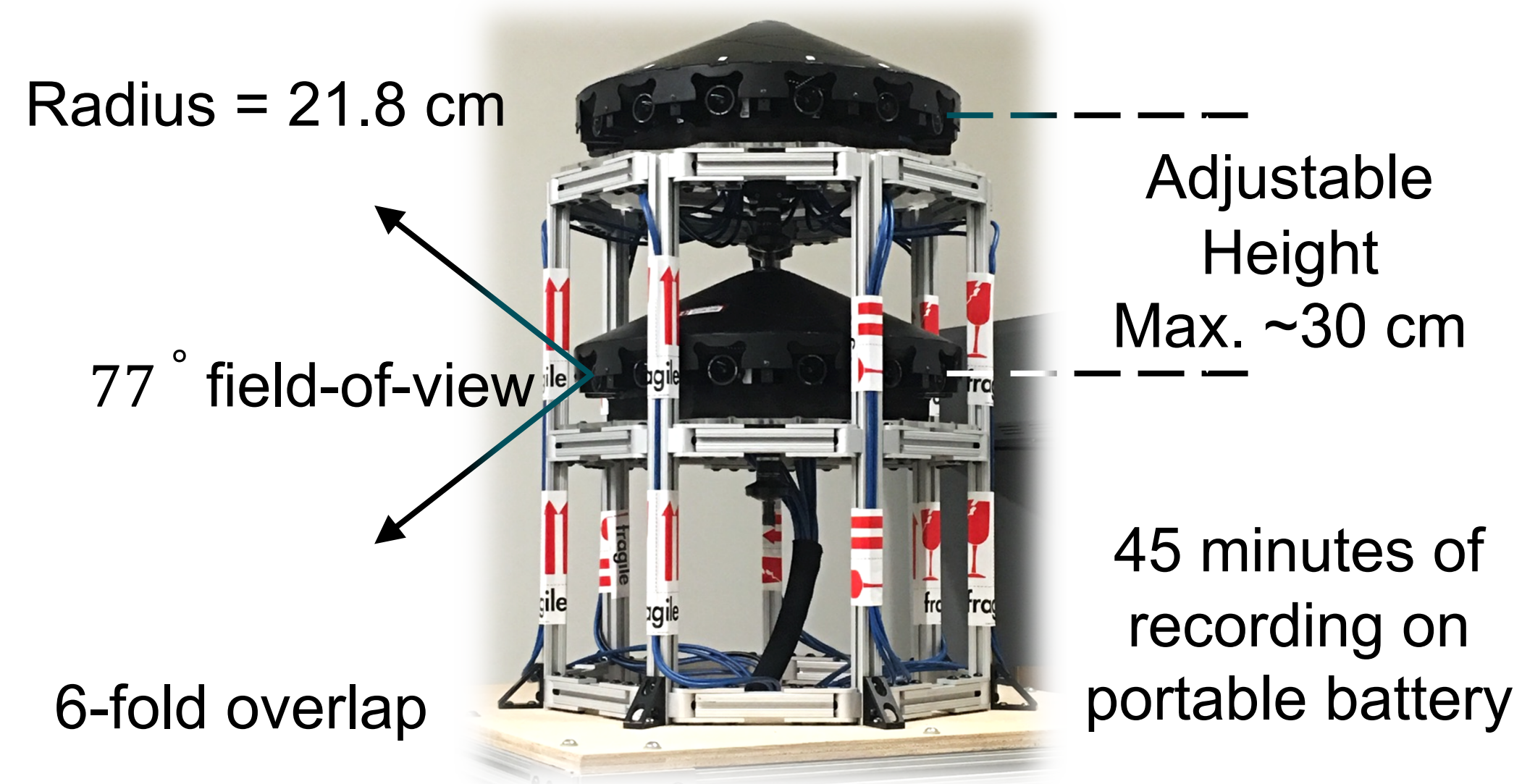
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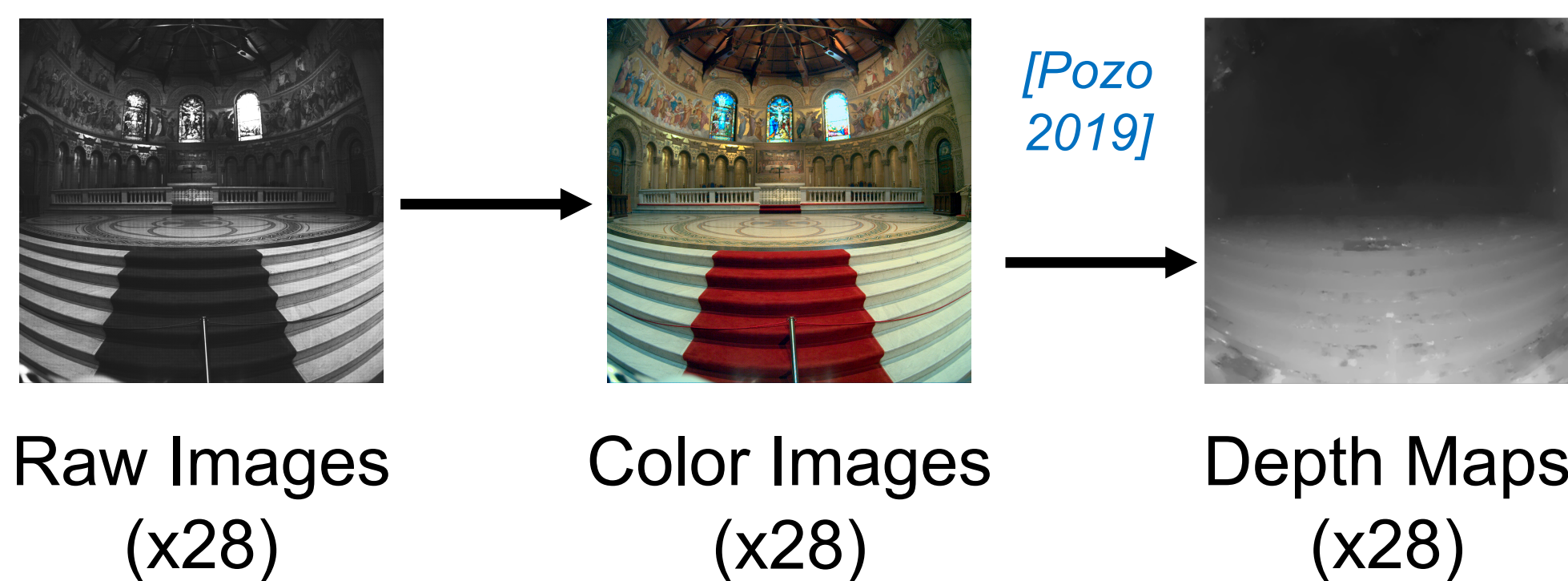
Abstract

- *Head-motion parallax plays a vital role in visual comfort and immersion in VR*
- *We build a two-level camera rig to support head-motion parallax for natural scenes*
- *We propose a novel depth-fusion algorithm to robustly stitch panoramas from error-prone rig depth maps*

Two-Level Camera Rig

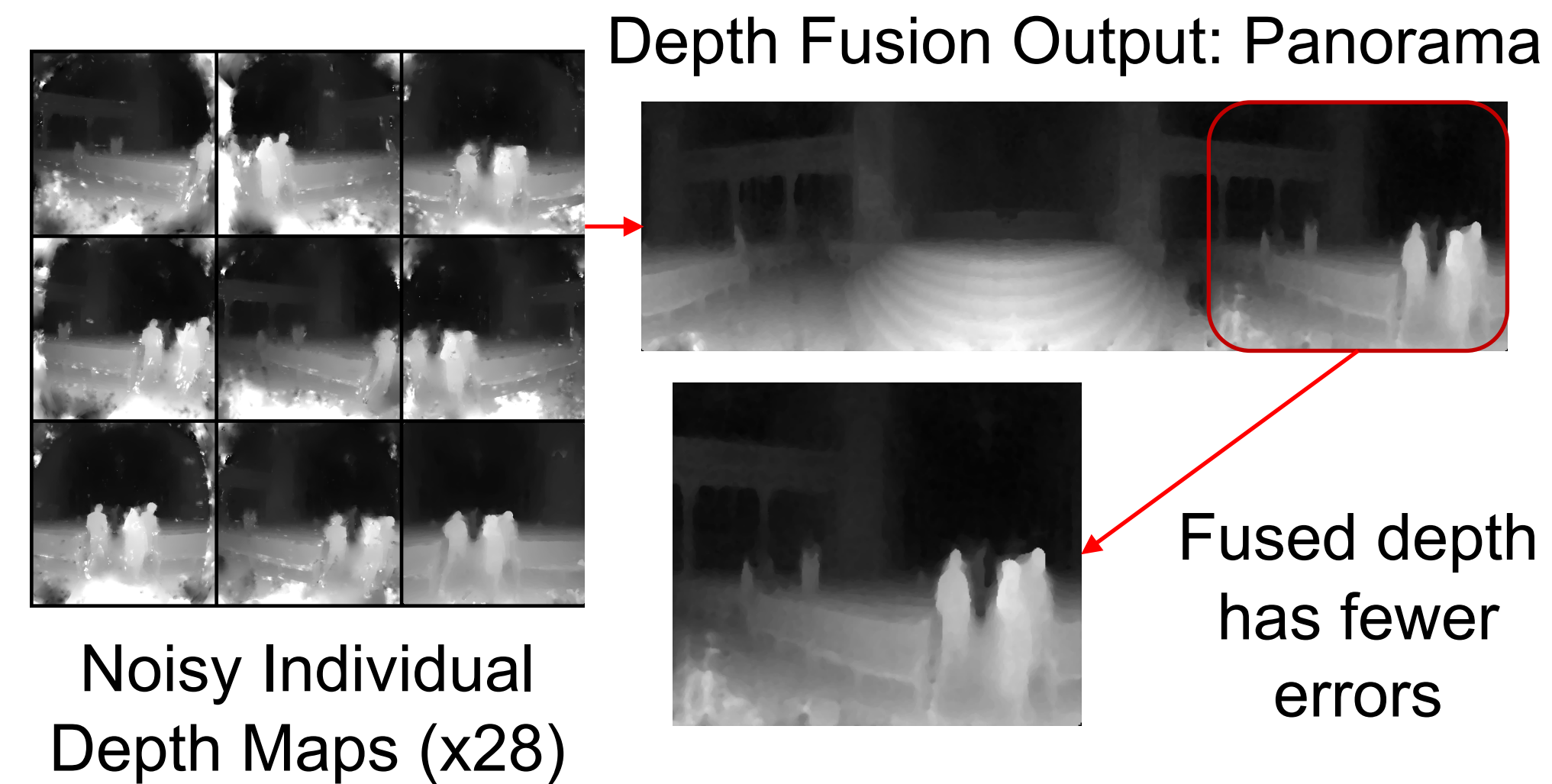


Color correction Feature matching
Depth estimation

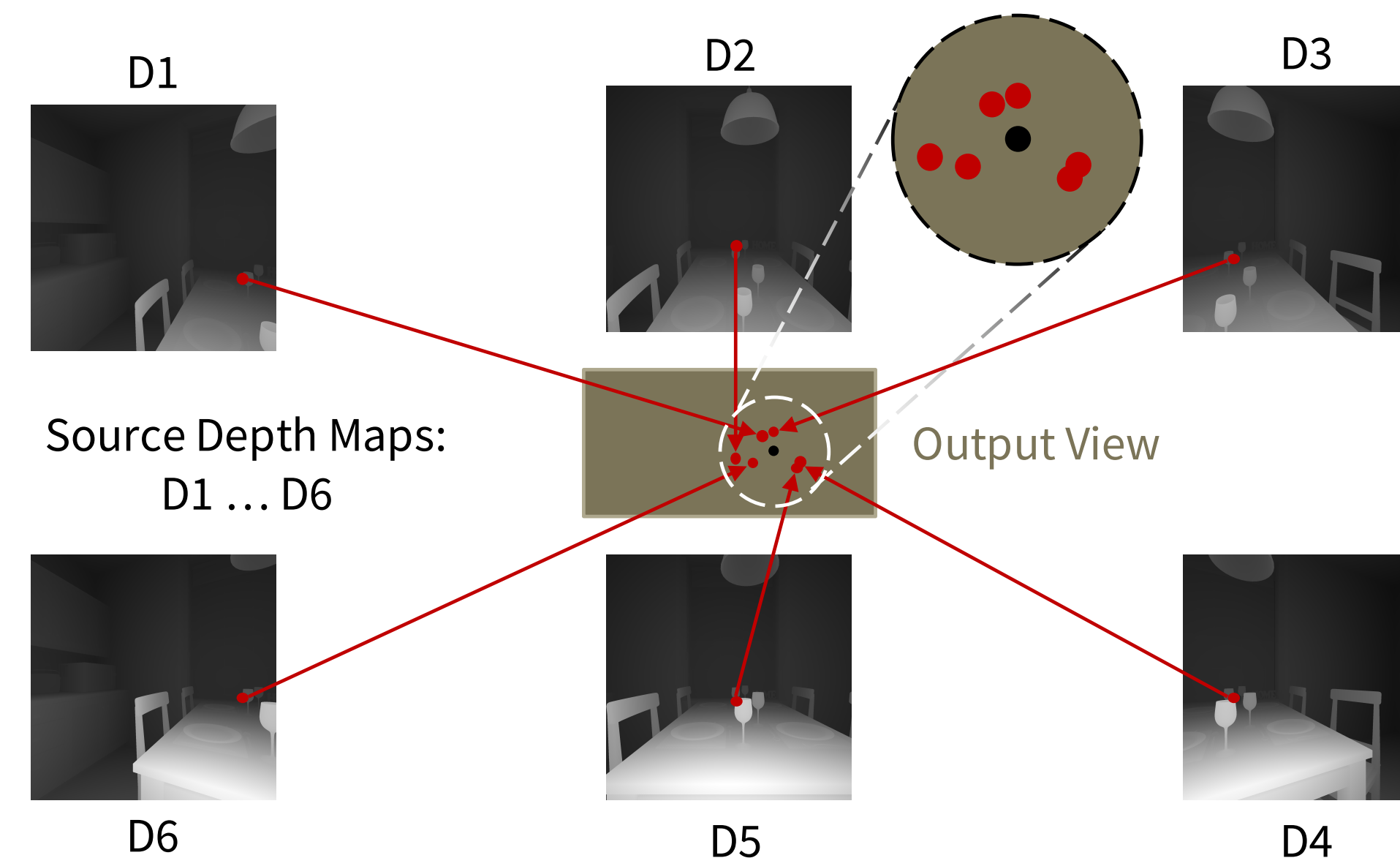


A. P. Pozo et al., "An integrated 6DoF video camera and system design", *ACM Trans. Graph.* 2019

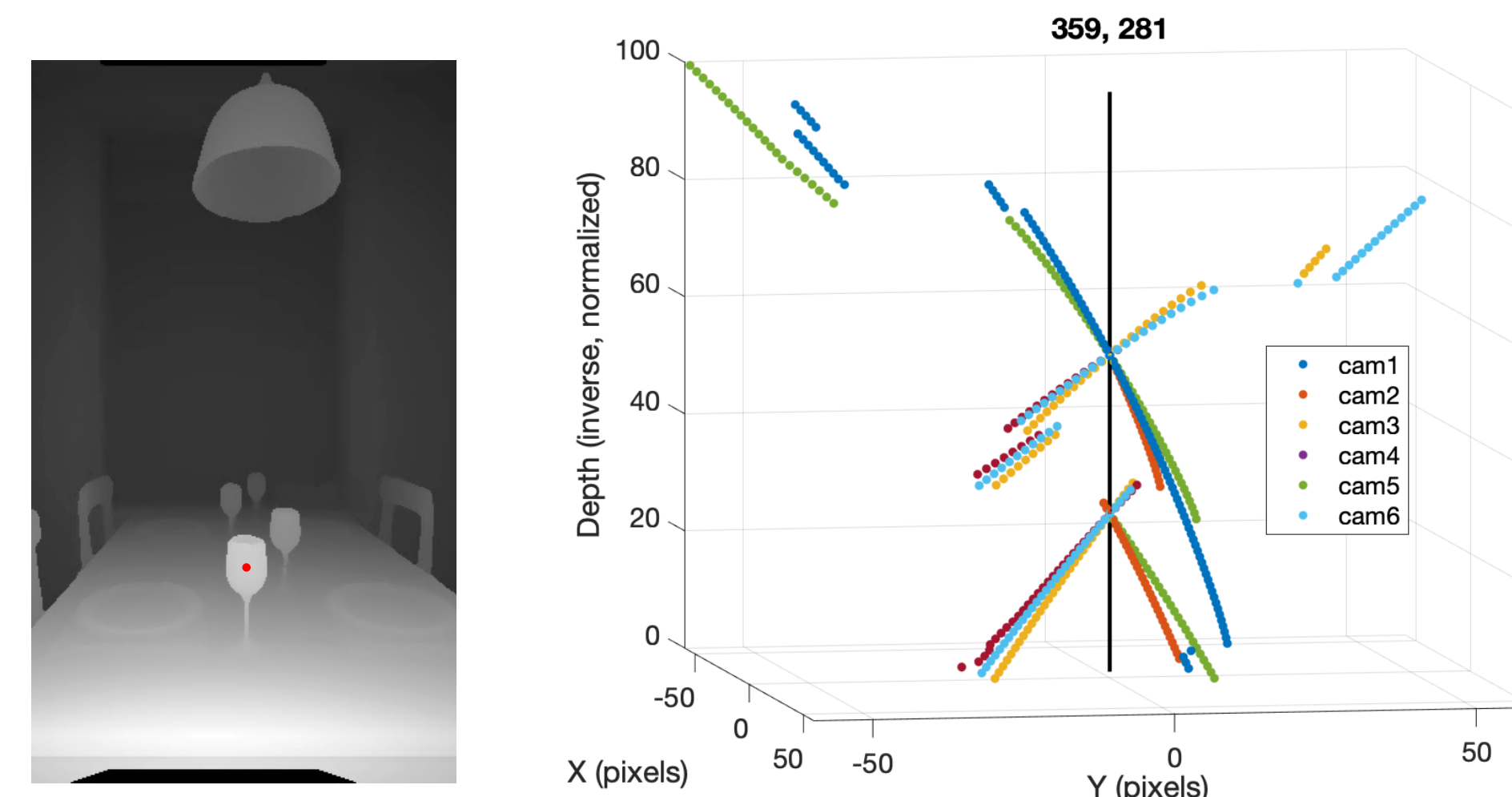
Motivation



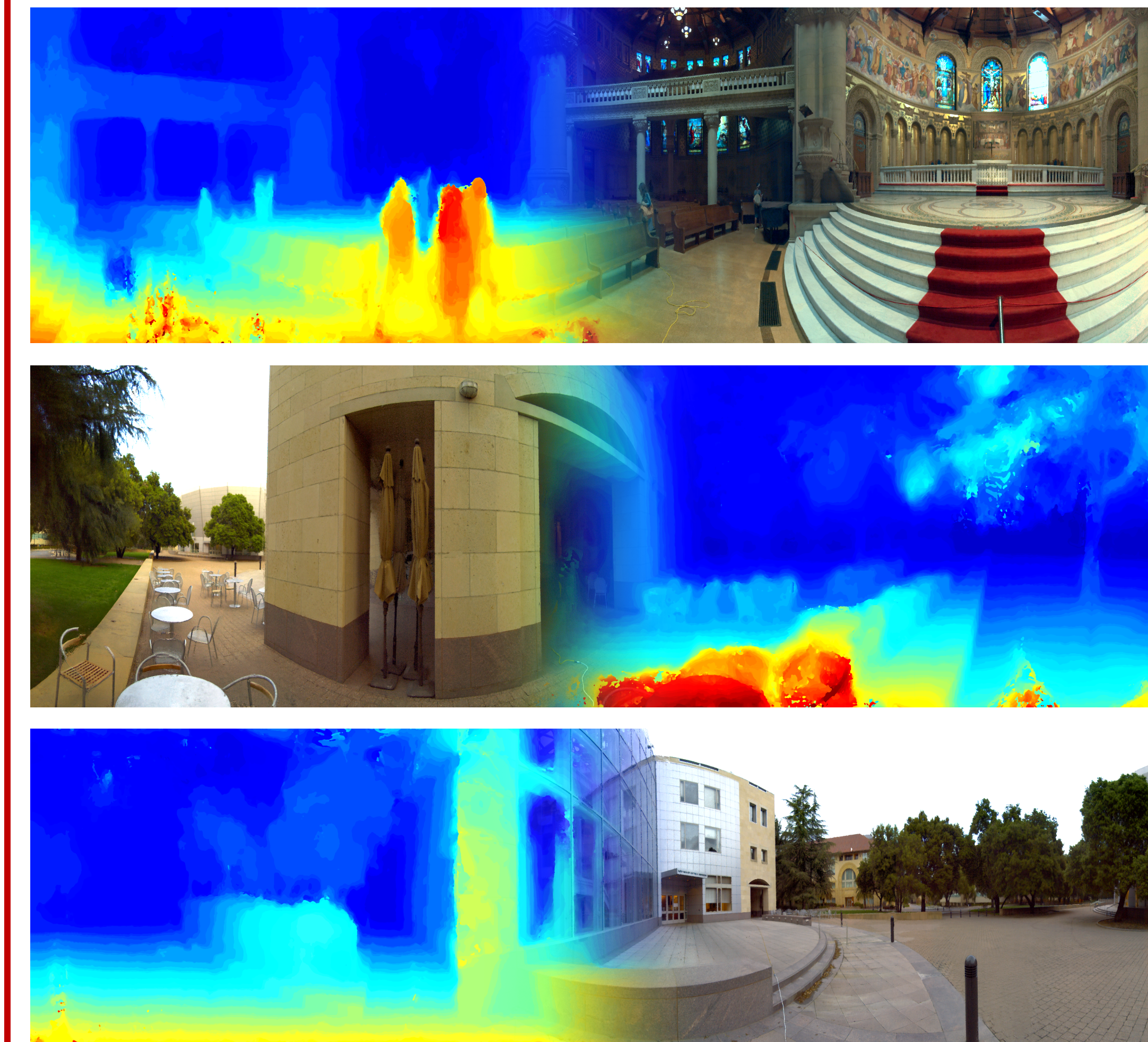
Depth Fusion Algorithm



Extracting Occluded Depths



Stitched Panoramas



Rendered Head-Motion Parallax

